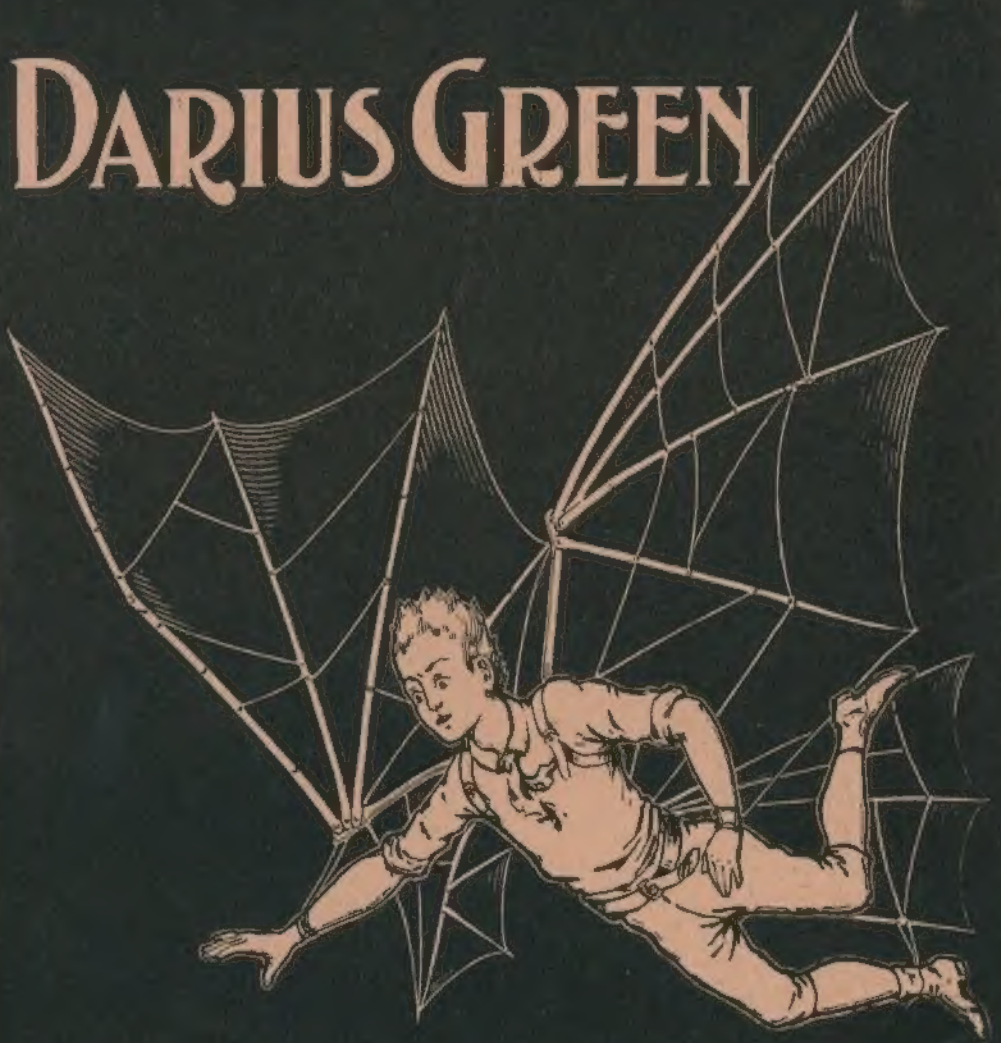
DARIUS GREEN



WOULD NEVER HAVE SIGHED FOR A FLYING-MACHINE IF HE HAD SEEN A

· 95 VICTOR BICYCLE ·

THE EASIEST RUNNING WHEEL IN THE WORLD. THE VICTOR DYNAMOMETER PROVES IT.

Send for illustrated catalog to Overman Wheel Co., Chicopee Falls, Mass.

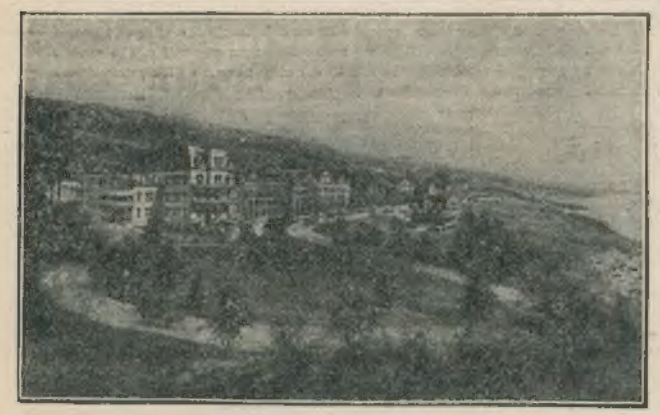
ARMSTRONG & McKELVY, Pittsburgh
ANCHOR, Cincinnati.
ATLANTIC, New York.
BEYMER-BAUMAN, Pittsburgh.
BRADLEY, New York.
BROOKLYN, New York.
COLLIER, St. Louis.
CORNELL, Buffalo.
DAVIS-CHAMBERS, Pittsburgh.
ECKSTEIN, Cincinnati.
FAHNESTOCK, Pittsburgh.
JEWETT, New York.
KENTUCKY, Louisville.
JOHN T. LEWIS & BROS. CO Philadelphia.
MORLEY, Cleveland.
MISSOURI, St. Louis.
RED SEAL, St. Louis.
SALEM, Salem, Mass.
SHIPMAN, Chicago.
SOUTHERN, St. Louis and Chicago.
ULSTER, New York.
UNION, "

Common Sense

dictates that you use materials when painting that you know something about. Pure White Lead and Pure Linseed Oil are and have been the standard for years. You know all about them; if you don't your painter does. To make sure, however, examine the brand (see list).

For colors, use National Lead Co.'s Pure White Lead tinting colors; they are the best and most permanent; prepared expressly for tinting Pure White Lead. Pamphlet and color-card free.

NATIONAL LEAD CO.,
1 Broadway, New York.



The Glen Springs. Watkins Glen, N. Y.

A Resort for those seeking Health, Rest, or Pleasure.

Open all the year. Under the medical management of experienced physicians. Equipped with all the most approved therapeutic appliances, including *Turkish, Russian, and Electric Baths, Massage, Swedish Movements, and all forms of Electricity.*

Five Valuable Mineral Springs—Muriated, Alkaline, Chalybeate, Iodo-Bromated, and Brine.

ALL FORMS OF
MINERAL AND BRINE BATHS.

Climate mild, dry, and equable. No malaria. Surrounded by Pine Forests. Half-mile of broad board-walk. Beautiful views overlooking thirty miles of Seneca Lake. Picturesque walks and drives. All modern improvements. Bowling Alleys. Glass Solarium 250 feet long. *Cuisine unsurpassed.* Consumptives, Epileptics, and persons suffering from any form of Insanity are not received. No contagious or offensive forms of disease admitted. Send for illustrated pamphlet.

WM. E. LEFFINGWELL, MANAGER.

THE HEALTH AND REST ALMA
ALMA, MICHIGAN.

People who love rest and quiet are especially pleased and delighted with The ALMA. It is the ideal resort for brain workers who wish to carry on their labors in the peaceful seclusion of a place where the very air tends to invigorate both mind and body. If you will send us your address we will forward you an illustrated book telling all about The ALMA and its many advantages.

The Alma Sanitarium Co., Alma, Mich.

Special discount to clergymen, teachers, and their families.

An AMERICAN EXPRESS CO.
"TRAVELERS CHEQUE"
is practically a certified cheque made payable to one's order, for a fixed amount named on its face, in the currency of the country, at 20,000 places throughout the world, by an extensive list of Bankers and Hotels.

More available, economical, and secure than Letters of Credit, Circular Notes, or other forms of Travelers' Credit.

Cheques, rates, and further information may be obtained at any Agency of the AMERICAN EXPRESS CO., or at the principal offices of the Company,

65 BROADWAY, NEW-YORK,
78 MONROE St., CHICAGO,
45 FRANKLIN ST., BOSTON.

ARMOUR'S EXTRACT OF BEEF

I Am So Glad

you didn't forget a Jar of

Armour's Extract of BEEF.

We're sure to want it wherever we go. It improves soup so much, and a cup of refreshing Bouillon can be made from it, anywhere, in a minute.

Send for our little book of "Culinary Wrinkles"—mailed free. Armour & Co., Chicago.

ARMOUR'S EXTRACT OF BEEF

PETER COOPER'S
CLARIFIED
GELATINE

For Wine Jellies, Blanc Mange, Charlotte Russe.

Our Pulverized Gelatine is the most convenient for family use, as it requires much less time to dissolve.

FOR SALE BY ALL GROCERS.

COLORADO

Salt Lake,
the Dakota Hot Springs,
Yellowstone National Park,
Pacific Coast and Puget Sound Points,
Alaska, St. Paul, Minneapolis,
Duluth, Ashland, Marquette and the
Health and Pleasure Resorts of the
West and North-West.
Low Excursion Rates
Via

...Full information can be obtained at principal offices, 208 Clark Street, Chicago; 423 Broadway, New York; 5 State Street, Boston, Mass.; or by addressing the General Passenger and Ticket Agent at Chicago....

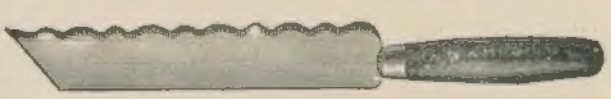
THE NORTH-WESTERN
CHICAGO & NORTH-WESTERN RAILWAY
·LINE·

THE CLAUSS SHEARS AND SCISSORS

Manufactured by THE CLAUSS SHEAR CO., FREMONT, OHIO.

OFFER

An Ornament for Any Table.



To any lady who will purchase a pair of "CLAUSS" Shears of her hardware dealer and will forward the wrapper with twenty cents in stamps, we will forward this finely finished, patented Cake Knife, postage paid.

THE DIFFERENCE

Buttermilk

TOILET SOAP

CONTAINS NO AL'KALI

THE SKIN AFTER BEING WASHED WITH A SOAP CONTAINING ALKALI

THE SKIN AFTER BEING WASHED WITH PURE SOAP

RUN NO RISK USE

IT'S PURE SOAP

FOR THE BATH TOILET & COMPLEXION

COSMO BUTTERMILK SOAP CO.

CHICAGO

IS THIS CLEAR?

NO ALE like EVANS'.
ALL like EVANS' ALE.

No Sediment.

Drink It

FOR

Health, Strength, Appetite, Good Digestion.

EVANS' INDIA PALE ALE

AND

BROWN STOUT

owe their excellence to

AMERICAN PLUCK,
BEST MATERIALS,
CAREFUL BOTTLING.

Sold Everywhere.

Brewery and Bottling Works,
HUDSON, N. Y.

C. H. Evans & Sons.

HAVE YOUR

CARRIAGE WHEELS

FITTED WITH

BALL BEARINGS

AND

RUBBER TIRES.

MICHIGAN WHEEL Co,
LANSING. —o— MICH.

THE SMITH GRANITE CO.

MAUSOLEUMS AND MONUMENTS

WESTERLY, R. I.

$18 buys a beautiful little Canoe; or, a Magnificent Pleasure Boat for **$125** Send for 60-page illustrated catalogue. Medal and Diploma at World's Fair.

J. H. RUSHTON, Canton, N. Y.

SEND TO THE OVERMAN CARRIAGE CO., Cincinnati, O., for a free copy of their handsome catalogue.

"SHADELAND,"

The most Extensive Pure-Bred

LIVE-STOCK ESTABLISHMENT IN THE WORLD.

New importations constantly arriving; unequalled collections; superior quality; choicest breeding; opportunity of comparing different breeds.

BREEDERS AND IMPORTERS OF

French Coachers,
Cleveland Bays,
Hackneys,
Clydesdales,
Percherons,
French Draughts,
English Shires,
Belgian Draughts,
Suffolks,
Standard-Bred Trotters,
Carriage Horses,
Saddle Horses,
Welsh Ponies,
Iceland Ponies,
Shetland Ponies,
Holstein-Friesian Cattle,
Devon Cattle.

Also, Dealers in Real Estate.

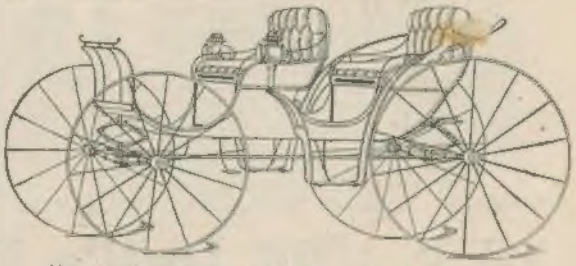
Our customers have the advantage of **our many years' experience** in breeding and importing; **superior quality; large variety and immense collections;** opportunity of **comparing different breeds;** and **low prices, because** of our **unequalled facilities, extent of business, low rates** of transportation.

No other Establishment in the World offers such Advantages to the Purchaser.

Prices low. Terms easy. Visitors welcome. Correspondence solicited. Circulars free.

POWELL BROS.,

Shadeland, Crawford Co., Pa.



"And what is so rare as a day in June?"

A dissatisfied purchaser of a Waterloo Vehicle is still more rare. The perfection of June days gives them their rarity.

The perfection of Waterloo Vehicles makes dissatisfaction impossible. Both are enjoyed and prized accordingly.

Write us for Catalogue.

WATERLOO WAGON CO., Limited, - Waterloo, N. Y.

WE HAVE NO AGENTS

but sell direct to the consumer at wholesale prices. Ship anywhere for examination before sale. Everything warranted.

100 styles of Carriages, 90 styles of Harness, Saddles, Fly Nets, etc.

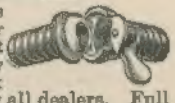
Send 4c. in stamps, postage on 112 page catalogue.

No. 311. $111.55.

Elkhart Carriage & Harness Mfg. Co,
W. B. Pratt, Secy. Elkhart, Ind.

A WATER-TIGHT Hose Coupler.

The **ACME.** Saves your fingers. Saves wear on the hose. A tight coupling in one second. For old or new hose. The **A & W** Hose Band. Quick effective and needs no tools. Sold by all dealers. Full set, 4 Hose Couplers, and 2 Hose Bands, postpaid 50c.



The Adams & Westlake Co., Chicago.

The Best Stain is the Cheapest.

Endorsed by the best architects. Used by the best contractors on the best houses.

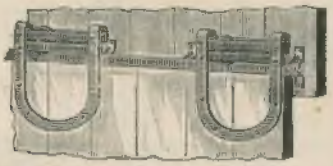
DEXTER BROTHERS' ENGLISH SHINGLE STAINS

Send for sample boards.

DEXTER BROTHERS, Sole Manufacturers,
55 & 57 Broad Street, Boston.

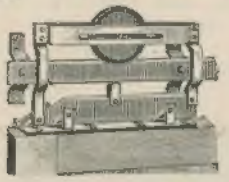
The following Firms act as our Agents:
H. M. HOOKER CO., 57 West Randolph St., Chicago, Ill.
PRATT & LAMBERT, New York City, N. Y.
W. W. LAWRENCE & CO., Pittsburgh, Pa.
SMITH & YOUNG, San Francisco, Cal.
THE I. J. MATTISON CO., Cleveland, Ohio.
BAKER & RICHARDS, Seattle, Wash.
HENRY SEIM & CO., Baltimore, Md.

Lane's Patent Steel Barn Door-Hanger



Anti-friction. Most complete in construction. Material the best. No breakage. Ease of movement. Always in order.

Lane's Patent Noiseless Steel Parlor Door-Hanger



Hanger is made of steel throughout, including wheel, except solid interior leather tread, causing to roll noiselessly. Single steel track instead of double wood rail. Ask your Hardware Dealer and send for Circular.

Manufactured by LANE BROTHERS, Poughkeepsie, N.Y.

"The Old Easy Chair."

The last issue (**No. 8**) of the Franklin Square Collection begins with the favorite song, "The Old Easy Chair by the Fire," and contains Flow, Rio Verde—Lone Starry Hours—There's a Sigh in the Heart—I'm Afloat—All's Well—Chimes of Zurich—Happy and Light—Welcome, Pretty Primrose—Johnny Schmoker—All 'Round My Hat—Mermaid's Evening Song—Angus Macdonald—Home So Blest—with many another good song. It ends with Hans Christian Andersen's beautiful "Story of the Nightingale," which is given in full above and below the music, immediately after Molloy's song of the same name, suggested by this charming story of the Emperor and the bird of the greenwood.

Sold Everywhere. Price, 50 cents; Boards, 60 cents; Cloth, $1.00. Pamphlet containing Specimen Pages of Songs and full contents of the several numbers sent without charge. **Harper & Brothers, New York.**

NO BUSINESS OFFICE

Is properly equipped unless supplied with modern devices for filing its papers.

Globe Filing Cabinets,

the **"Ideal"** for flat and the **"Globe Document"** for folded papers, in points of convenience, variety of styles and elegance of finish are unequalled by any others in the world.

Ask for 108 page Catalogue--costs you nothing and tells more about Business Furniture than any other catalogue published.

42 Beaver Street, NEW YORK.

THE GLOBE CO., Cincinnati.

RETOUCHERS OF PHOTO. NEGATIVES
Earn **Good Wages.** Constant demand.—Easily learned.—Stamp for Illust'd Catalog.
School of Retouching and Photography, Oberlin, Ohio.

SHORTHAND Celebrated PERNIN method. Awarded Medal and Diploma at World's Fair. Simplest and best in the world. Trial lesson FREE. For books and lessons by MAIL, write H. M. PERNIN, Author, Detroit, Mich.

BOOKS Standard Authors REDUCED TO **10c**
New General Catalog Free!! **POPULAR BOOK CO., CHICAGO**

HARPER'S NEW CATALOGUE, thoroughly revised, classified, and indexed, will be sent by mail to any address on receipt ten cents.

Wedding Gifts in Dorflinger's American Cut Glass

Are greatly appreciated. Everything in Cut Glass for the table. A great variety of ornamental pieces.

No piece genuine without our trade-mark label.

TRADE DORFLINGER MARK.

A Water Set.

C. Dorflinger & Sons,
New York.

The Everybody Books

Everybody's Pocket Cyclopædia.
Illustrated. Square 16mo, Cloth, Ornamental, 75 cents.

Everybody's Writing-Desk Book.
Square 16mo, Cloth, Ornamental, $1.00.

Everybody's Book of Correct Conduct.
Square 16mo, Cloth, Ornamental, 75 cents.

Everybody's Guide to Music.
Illustrated. Square 16mo, Cloth, Ornamental, 75 cents.

Published by HARPER & BROTHERS, New York.

Will be sent by mail to any part of the United States, Canada, or Mexico, on receipt of price.

Higgins & Seiter

FINE CHINA
RICH CUT GLASS

"That ¼ is, Indeed, Worth Saving,"

When you can choose from a stock incomparable in America.

Do it, too, if necessary, at your own home, by ordering from our 174-page picture catalogue No. 5 (C). For instance:

Complete Toilet Set, with Jar, neatly decorated, $3.75.

Carlsbad China Dinner Set, 126 pieces, beautifully ornamented, $19.50.

China Fernery, violet decoration and traced gold, $3.00.

Country Furnishings in Glass and China, all kinds at

"One Fourth Less, Remember."

Send for that Catalogue, anyway.

50-52 w. 22nd St. New York.
170 Bellevue Ave. Newport, R.I.

ON A GRAY DAY

No camera will make a perfect instantaneous photo except it is fitted with the **Ross Patent Lens** used in

The Folding Montauk
$25 to $150.

G. GENNERT, Manufacturer,
24 and 26 East 13th St., N. Y.

The most complete assortment of high grade photo materials in the United States.
CATALOGUE SENT FREE.

The DENSMORE

"The World's Greatest Typewriter."

Fact: We are doing a **LAND OFFICE BUSINESS.**

We received from the U. S. GENERAL LAND OFFICE, April 16, 1895, on competition, a written order for **38 DENSMORES,** immediate delivery.

We challenge any other Typewriter Company to show so large an order from a consumer for a single delivery. Descriptive pamphlet and telling testimonials sent free.

DENSMORE TYPEWRITER CO., 316 Broadway, N. Y.

BEAUTIFUL WORK.

CLEAR AND CLEAN PRESS COPIES.

No Dirty Ribbons — Parts Easily Changed.

TYPE ALWAYS CLEAN.

The No. 4 YOST WRITING MACHINE

IS UNEXCELLED FOR

BEAUTY OF WORK,
DURABILITY OF CONSTRUCTION,
PERMANENT ALIGNMENT,
LIGHT CARRIAGE,
DIRECT PRINTING, and has many other POINTS OF EXCELLENCE.

Call and examine.

Yost Writing Machine Co.,
61 Chambers St., New York.
41 Holborn Viaduct, London, Eng.

There are other Typewriters, But — The

TIME TRIED AND TESTED STANDARD

Ask for SPECIAL OFFER to "Harper's" readers; good until June 25th, 1895.

Catalogue "A" and actual specimen of Color Work, FREE.

National

Is, Irrespective of Price, The Best.

NATIONAL TYPEWRITER CO., 23d and Arch Sts., PHILADELPHIA, PA.

Leading Scientists, Photo-Engravers, Theatres, Lecturers and others use the CRITERION MAGIC LANTERNS, PROJECTION APPARATUS, SELF-FOCUSING ARC ELECTRIC LAMPS, ETC

J. B. COLT & CO. Manufacturers, 115, 117 NASSAU ST., NEW YORK.

AGENCIES:
50 BROMFIELD ST. BOSTON, MASS.
33-39 SO. 10TH ST. PHILA. PA.
189 LA SALLE ST. CHICAGO, ILL.
131 POST ST. SAN FRANCISCO, CAL.
SEND FOR CATALOGUE.

Easily Prepared,
Of Uniform Quality
and Cleanly Made,

our soups have established a reputation seldom attained by any brand of canned goods.

You run no chances when using Franco-American Soups. Such they were 8 years ago when first introduced, so they are to-day, as regular, as good, and as honest as can be made.

Factory open daily to visitors (Saturdays excepted.)

Sample can of Soup mailed on receipt of 14 cents.

Franco-American Food Company,

P. O. Box 150, New York.

Get a Glass! Quick!

There's lots of snap and vim in this HIRES' ROOT-BEER. There's lots of pleasure and good health in it, too. A delicious drink, a temperance drink, a home-made drink, a drink that delights the old and young. Be sure and get the genuine

HIRES' Rootbeer

A 25 cent package makes 5 gallons. Sold everywhere.

THE CHAS. E. HIRES COMPANY, PHILADELPHIA, PA.

AWARDED GOLD MEDAL COLUMBIAN EXPOSITION.

DURKEE'S
SPICES
SAUCES
EXTRACTS
OF PERFECT PURITY
AND EXQUISITE FLAVOR

YOUR GROCER KEEPS THEM.

Wedding or Testimonial

gifts of Gold or Silver, when cleaned or polished with

ELECTRO-SILICON

retain their value and ornamental effect indefinitely.

It's sold by leading dealers throughout the civilized world. Trial quantity for the asking.

THE ELECTRO SILICON CO., Sole Propr's, 72 John St., New York.

....IT RUNS

The Great Fast Mail Trains for the United States Government. What stronger endorsement could be furnished that its service is fast, punctual, safe.

Be you wise also in the selection of a route.

A. J. SMITH, G. P. & T. A., Cleveland, Ohio.

When you purchase be particular to inform agent that you wish tickets over this railway, between Chicago, Cleveland, Buffalo, Cincinnati, St. Louis, New York, Boston. . . . . .

WE EMPLOY YOUNG MEN

to distribute advertisements in part payment for a high grade Acme Bicycle, we send them on approval. No work done until bicycle arrives and proves satisfactory.

YOUNG LADIES

employed on same terms. If boys or girls apply they must be well recommended. Write for particulars.

ACME CYCLE CO., Elkhart, Indiana.

LAMSON'S
LUGGAGE CARRIERS

for Safety Bicycles. Indispensable to Wheelmen. They weigh but a trifle, and fit nearly all machines. Manufactured in several styles and sizes.

Single Carrier,	No. 1,	price	$1.00
" "	" 5,	"	1.25
Double "	" 4-D,	"	1.50
Camera "	" 6,	"	2.00

Send for Descriptive Circular.

C. H. LAMSON, - Portland, Me.

Waverley BICYCLES.

Are the Highest of All High Grades.

PRICE, $85.

Do not be misled by unscrupulous dealers. Insist on having the best. Warranted superior to any bicycle built in the world, regardless of price. Get our catalogue 'G' free, by mail, before buying. Indiana Bicycle Co., Indianapolis, Ind., U.S.A.

KOMBI CAMERA

IT IS NOT A TOY
BUT A SUCCESS

$3.50

Makes a picture square, round, or fancy shape.

Takes 25 pictures in one load[illegible], snap shot or time exposure. The size of the Camera is 1[illegible] inches, weight [illegible] carry in your pocket. All [illegible] silver bronze finish. The KOMBI, complete, $3 50 Snap [illegible] exposures), 20 cents extra. Cost of developing roll of film, 15 cts; cost for printing, 1 cent for each picture. Any boy or girl can use it. Every instrument guaranteed. If not for sale by your dealer, sent postpaid at above price.

Send for illustrated booklet, "All About the Kombi."

ALFRED C. KEMPER,
208 Lake Street, Chicago.

A record of over half a century is a guarantee that can not be questioned.

Every article used in

PHOTOGRAPHY may be obtained from us.

The most complete lines of hand and tripod

CAMERAS All Styles, all Sizes, all Prices.

FREE. Handsomely Illustrated Catalogue mailed FREE on application.

Anthony's Photographic Bulletin, per year, $2 00. **The International Annual for 1895, 75 cents.**

E. & H. T. ANTHONY & CO., 591 Broadway, New York.

From $1.00 to $200.00 per collection at Factory Prices and *Free Delivery*

We offer Committees, Clubs and private Consumers
15 Original Combination Displays of High Grade

FIREWORKS

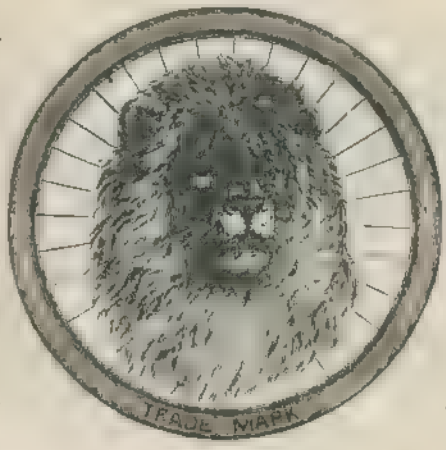
Send at once for catalogue explaining offer.

THE MASTEN & WELLS FIREWORKS MFG. CO., 16 & 18 HAWLEY ST., BOSTON, MASS

MONARCH BICYCLES

Best in the World. Strictly up-to-date.

Light, graceful, strong, speedy, beautifully finished, exquisitely designed.

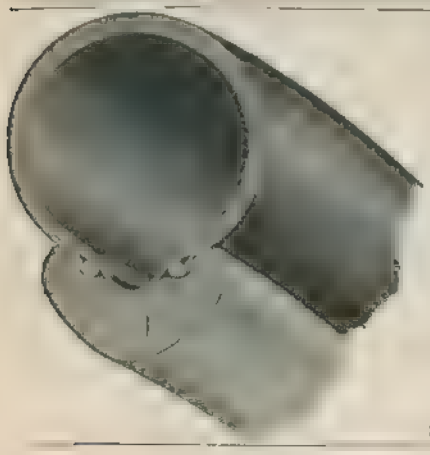


Four Models. $85 and $100.
Elegant 40-page catalogue for postage.

MONARCH CYCLE CO.

Factory and Main Office, Lake and Halsted Streets. **CHICAGO.** Retail Salesroom, 280 Wabash Avenue.

BRANCHES: New York, San Francisco, Portland, Salt Lake City, Denver, Memphis, Detroit, Toronto.



SEA ISLAND COTTON is the only material from which the fabric of a pneumatic tire should be made. It is used in the Dunlop.

(Some manufacturers supply the Dunlop tire on their bicycles without extra charge.)

Send for our Catalogue and learn all about the original pneumatic tire.

AMERICAN DUNLOP TIRE COMPANY,

504-506 West 14th St., N. Y. City.

WESTERN BRANCH: 206 Wabash Ave., Chicago, Ill. | CANADIAN BRANCH: 36 & 38 Lombard St., Toronto, Canada.

PHŒNIX BICYCLES

7th Year. Strictly High-grade.

Weight 20 to 25 pounds. Choice of a large number of fittings. Easiest-Running Wheel made. A winner at all coasting contests. Carefully constructed; positive satisfaction guaranteed.

Send for Free Catalogue E.

Eastern Branch: 575 Madison Ave., New York.

STOVER BICYCLE MFG. CO.,

Freeport, Ill.

NORTHERN PACIFIC RAIL-ROAD
"THE MAMMOTH HOT SPRINGS comprise more than 50 large, active Springs, occupying an area of 170 acres, and pouring forth constantly a volume of hot water. These immense Springs have built up around the crevices whence they issue from the earth deposits and incrustations of enormous extent, of infinite variety, and exquisite beauty. The openings of the Springs have in most cases been transformed to large deep pools of water, which, overflowing the sides of the terraces and making stony deposits as they go, have wrought a work of beauty which art would find impossible to imitate or approach. The chalky masses are, indeed, masses of virgin marble sculptured by nature in its manufacture."—Dr. H. C. WHITE, University of Georgia.
"Two remarkably beautiful hot water springs, or small lakes, are situated on the same plateau and close to the EXCELSIOR GEYSER. The largest of these, which is 250 by 350 feet in dimensions, is called the Grand Prismatic Lake, from the marvellous variety and beauty of the colors it presents. At the edges it is shallow, with scalloped, shell-like borders, and its bottom presents stripes and streaks of color from pearly white to crimson. It deepens toward the centre, its shape being like a morning-glory. The sides are of a pearly whiteness, and little globules, not unlike pearls in appearance, are thickly studded along these sides. The water is turquoise blue, and one can see to an incredible depth."—H. Z. OSBORNE, in Los Angeles, Cal., *Evening Express.*
"There are few sights in the world so wondrous and so weird as the *Great Falls* and *Grand Cañon of the Yellowstone.* The scene from the brink of the falls, looking into the profound depth of the cañon, is of strange majesty and indescribably awe-inspiring. Along the sides of the cañon, the walls are in many places fashioned into pyramids. The tints of yellow, deep red, etc., are due to the action of the hot springs, the weather, the presence of sulphur and the oxidation of iron, which here, as elsewhere, is Nature's principal pigment. The Crater of Vesuvius is the only place in which I remember to have seen such wealth of natural color. John Ruskin should see and tell of this place."—CHAS. I. WHITMAN, Carroll, Iowa.
IT'S ON OUR
Yellow-stone Park . .
LINE
Send me *SIX CENTS* in stamps for SKETCHES OF WONDERLAND and read about this *wonderland*—then pack your trunk and go and see it.
Reduced Rates for 1895.
CHAS. S. FEE, St. Paul, Minn.
Gen. Pass. Agent
NORTHERN PACIFIC RAILROAD.

At the door of the Newspaper Advertiser.

For further particulars, address

N. W. AYER & SON,

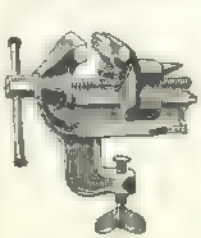
Newspaper Advertising Agents,
Philadelphia.

Vises.

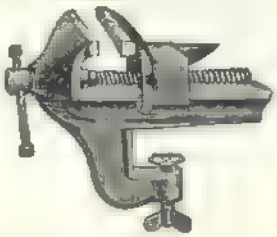
Bonney's Bench Vises.

Nos. 01, 01½ and 02

No.	DESCRIPTION	PER DOZEN
01	1½ inch Jaws, Malleable Iron Screw,	$3 75
01½	1¾ inch Jaws, Malleable Iron Screw,	5 00
02	2 inch Jaws, Malleable Iron Screw,	6 50

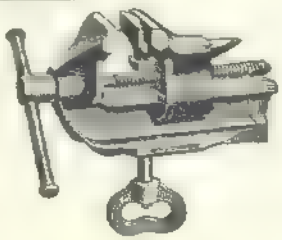


No. 03



No. 04

No.	DESCRIPTION.	PER DOZEN.
03	2½ inch Jaws, with Swivel Attachment, Malleable Iron Screw,	$12 00
04	3½ inch Jaws,	16 50



No. 09

No.	DESCRIPTION.	PER DOZEN
09	2½ inch Steel Jaws, with Swivel Attachment,	$22 50

Hand Vises

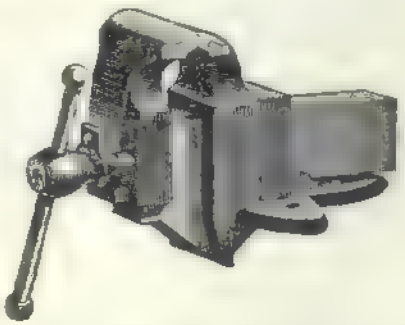
No.	DESCRIPTION.	PER DOZEN.
140	4 inch, Black, Wrought Iron Screw, 1½ inch Jaw,	$7 50
140	4½ inch, Black, Wrought Iron Screw, 1½ inch Jaw,	8 25

HALF DOZEN IN A BOX

Tinners' Vises.

Oval Slide.

No.	DESCRIPTION	EACH
30	2½ inch Jaws, Weight, 8½ lbs.,	$2 50
31	3 inch Jaws, Weight, 13 lbs.,	3 00
32	3½ inch Jaws, Weight, 18 lbs.,	4 25
33	3½ inch Jaws, Weight, 22 lbs.,	4 75
34	4 inch Jaws, Weight, 27 lbs.,	6 50



Patent Parallel Round Jaws.

No.	DESCRIPTION.	EACH
1	3½ inch Jaws, Weight, 33 lbs.,	$ 7 00
2	4½ inch Jaws, Weight, 41 lbs.,	8
3	4½ inch Jaws, Weight, 60 lbs.,	11 75
100	3 inch Jaws, Weight, 25 lbs.,	6 50

No. 100, is the same as No. 1 without the Wrought Iron Strengthener, or any of Parker's Patented Improvements.

No.	DESCRIPTION	EACH
40	4½ inch Jaws, Opens 8 inches, Weight, 52 lbs.,	$10 25

Vises.

Massey's Perfect Vises.

Stationary Base, Steel Bevel Undercut Thread.

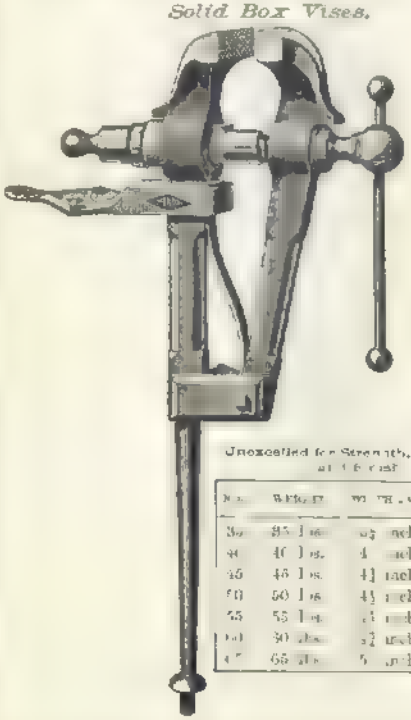
NO.	WIDTH OF JAW.	OPENS.	WEIGHT.	EACH.
0	3½ inch.	4 inch.	32 lbs.	$ 7 75
1	4 inch.	5 inch.	42 lbs.	9 50
2	4½ inch.	6 inch.	70 lbs.	11 50
3	5½ inch.	8 inch.	105 lbs.	17 50
4	6½ inch.	9 inch.	140 lbs.	23 00

Swivel Base, Steel Bevel Undercut Thread.

NO.	WIDTH OF JAW.	OPENS.	WEIGHT.	EACH.
10	3½ inch.	4 inch.	40 lbs.	$ 8 75
11	4 inch.	5 inch.	50 lbs.	10 50
12	4½ inch.	6 inch.	78 lbs.	12 50
13	5½ inch.	8 inch.	118 lbs.	18 50
14	6½ inch.	9 inch.	180 lbs.	25 00

The screw is the best known to grasp the hard steel socket and at the same time press the trigger against it. The hand never leaves the handle when screwing or sliding the loose jaw.

Solid Box Vises.



Unexcelled for Strength, Durability and Ease of Use.

NO.	WEIGHT.	WIDTH OF JAW.	EACH.
35	35 lbs.	3½ inch.	$10 00
40	40 lbs.	4 inch.	10 50
45	45 lbs.	4½ inch.	11 00
50	50 lbs.	4½ inch.	11 50
55	55 lbs.	5 inch.	12 00
60	60 lbs.	5½ inch.	13 00
65	65 lbs.	6 inch.	14 00

Massey's Lightning Woodworker's Vise.

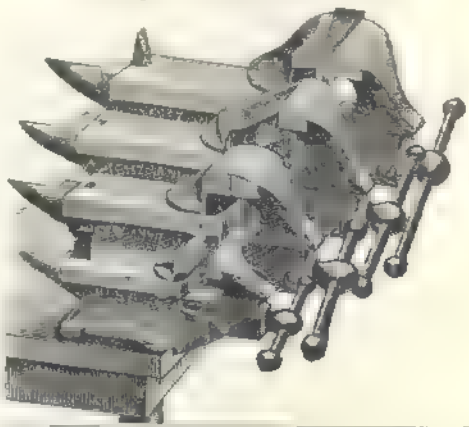
NO.	DESCRIPTION.	EACH.
17	9 inch Jaws, Open 12 inches, - -	$6 00

Combined Anvils and Vises.

Handles 1 F or and 1 Vise.

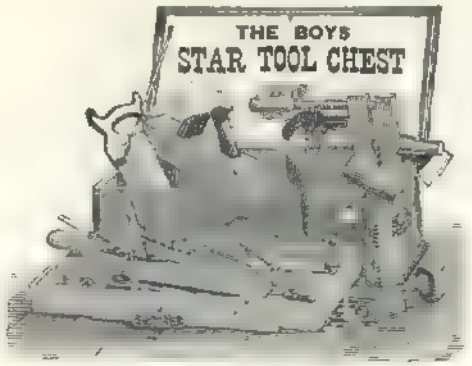
NO.	DESCRIPTION.	EACH.
3	[illegible] Vise Opens 5 inches, Combined with Anvil, Weight, 30 lbs.,	$36 00

Cheney's Anvils and Vises.



NO.	DESCRIPTION.	EACH.
20	Face of Anvil, 6½×3 inch, Jaws, 3½ inches Wide, and Opens 4 inches,	$4 50
30	Face of Anvil, 8×3½ inch, Jaws, 3½ inches Wide, and Opens 5 inches,	5 50
40	Face of Anvil, 8½×4 inch, Jaws, 4½ inches Wide, and Opens 6 inches,	6 50

Boys' Tool Chests.



NO.	DESCRIPTION.	PER DOZEN
45 A.	Chestnut Box, Size 9¼ × 4½ × 8, Hinged Cover, Locked Corners, Well Finished, with Black Mouldings, containing about 9 Tools, as follows:—Hammer Try Square, Tape Measure, Rule, Drawing Square, Mallet, Hand Saw, Triangle Nails and Brads,	$ 5 00
60 A	Chestnut Box with Till, Size 12⅛ × 6½ × 4, Hinged Cover, with Heavy Black Mouldings, containing about 10 Tools, as follows:—Plane, Hand Saw, Try Square, Hammer, Mallet, Pencil, Crayon, Rule, Mitre Gauge, Nail Set, Nails and Brads,	9 00
80 A	Chestnut Box with Tray, Size 13½ × 8¾ × 4½, Locked Corners with Heavy Black Mouldings, containing about 13 Tools, as follows:—Plane, Hammer, Mallet, Nail Set, Pencil, Crayon, Chisel, Rule Mitre Box, Brad Awl, Hand Saw, Try Square, Mitre Gauge, Nails and Brads,	12 50
600 A	Chestnut Box with Tray, Size 15½ × 8 × 5½, Well Finished with Heavy Black Mouldings, containing about 14 Tools, as follows:—Hand Saw, Handled Brad Awl, Screw Driver, Rule, Plumb Bob, Mitre Box, Smooth Plane Chisel with Handle, Bench Vise, Mallet, Try Square, Hammer, Crayon, Pencil, Nails and Brads,	18 50
700 A	Chestnut Box with Tray, Size 17¾ × 8½ × 6½, with Heavy Black Mouldings and Bronzed Handles, containing about 20 Tools, as follows.—Hand Saw, Mallet, Try Square, Plane, Handled Brad Awl, Drawing Square, Mitre Box, Mitre Gauge, Gimlet, Handled Chisel, Screw Driver, Nail Set, Hand Screw, Nail Hammer, Rule, Marking Gauge, Bench Stop, Sand Paper, Crayon, Nails and Brads,	31 50
750 A	Chestnut Box with Tray, Size 18¾ × 9½ × 8½, with Heavy Black Mouldings and Bronzed Handles, containing about 24 tools, as follows:—Hand Saw, Hammer, Chisel, Brad Awl, Screw Driver Handled Mallet, Plane, Hand Screw, Rule, Try Square, Mitre Box, Nail set, Marking Gauge, Bench Screw, Chalk Line and Reel, Bench Vise, Dividers, Wrench, Triangle, Pencil, Crayon, Key Rin , Nails and Brads,	37 00
800 A	Chestnut Box with Tray, Size 19½ × 9¾ × 7, with Heavy Black Mouldings and Bronzed Handles, containing about 30 Tools, as follows: Hand Saw, Marking Gauge Handled Brad Awl Brace Bit, Screw Driver, Pliers, Nail Set, Tack Claw, Key Ring, Rule, Bit Brace, Plane, Mallet, Gimlet, Handled Firmer Chisel, Nail Hammer, Chalk Line and Reel, Hand Screw, Bench Vise, T Square, Mitre Box, Crayon, Bench Stop, Scratch Awl, Mitre Gauge, Pencil, Nails and Brads,	40 00

Gentlemen's Tool Chests.

NO.	DESCRIPTION.	EACH
20	Made of Selected Chestnut Stock, Heavy Black Walnut Mouldings, Large Drawer, fitted with Lock and Key and Bronze Handles, Size, 14 inches Long, 6½ inches Wide and 5 inches Deep, contains 20 Tools as follows:—Hatchet, Smooth Plane, Hand Saw, Mallet, Rule, Hand Screw, Try Squares, 2 Firmer Chisels (Handled), Saw File, Nail Hammer, Marking Gauge, Screw Driver, 2 Handled Brad Awls, Pliers, 2 Nail Gimlets, Pencil, Marking Awl, Nails and Brads,	$6 00
21	Made of Selected Chestnut Stock, Heavy Black Walnut Mouldings, Large Drawer, fitted with Lock and Key and Bronze Handles, Size, 16 inches Long, 7½ inches Wide and 5½ inches Deep, contains 25 Tools as follows:—Hatchet, Smooth Plane, Hand Saw, Mallet, Rule, Hand Screw, Try Square, 2 Handled Firmer Chisels, Wood Files, Marking Gauge, Claw Hammer, Saw File, Screw Driver, Pliers, 2 Handled Brad Awls, Marking Awl, Pencil, 2 Gimlets Pincers, Chalk Line Reel, Nail Set, Nails and Brads,	7 00
1 000	H., S., B. & Co's, "Our Very Best," made for use of a true Mechanic, and best Tools only taken from regular stock, fine Panneled Wood Chest, Varnished and supplied with Heavy Handles and Brass Tumbler Lock, Length, 27 inches, Width, 15½ inches, Height, 10½ inches, 2 Sliding Tills, contains about 60 Full size First Quality Tools, as follows:—Cast Steel Claw Hatchet, Cast Steel Nail Hammer, Fine Steel Tack Hammer, with Claw, ¾ and 1 inch Cast Steel Tanged Firmer Chisels, ½-inch Gouge, all Handled, Fine Skew Back 22 inch Panel Saw, Iron Pad Saw Handle and Saw, Bailey's Jack Plane No. 26, Stanley Smooth Plane No. 122, 7½ inch Try and Mitre Square, 8 x 12-inch Steel Square, Fine Plumb and Level, 24 inch, two foot Bound Boxwood Rule, one-foot Boxwood Caliper Rule, Enameled Handled Steel Scratch Awl, Henry's Tool Handle, with 12 Steel Tools, 10 inch Mill File, 8 inch Round Bastard File, 10-inch Double Ender Taper File, 9 H., S., B. & Co's Auger Bits, one each ¼, 5/16, ⅜, 7/16, ½, 9/16, ⅝, 11/16 and ¾ inch, 12 Assorted Double Cut Gimlet Bits, Rosewood Handle Gimlet, Nickel Plated Bit Brace, with Lignumvitæ and Rosewood Handles, Goodell's Rosewood Handle Spiral Screw Driver, 8 inch Cast Steel Divider, 6 inch Agricultural Wrench, 2 inch Jaw Bench Vise, 5 inch Gas Pliers, 5½-inch End Cutting Nippers, Hunter's Nail Set, 6-inch Washita Mounted Oil Stone, No. 2 Zinc Oiler, 2½-inch Face Rawhide Mallet, Nos. 222 and 228 Hand Screws, Combined Marking and Mortise Gauge, 6-inch Cast Steel Draw Knife, 7-inch Carpenter's Pencil, Braided Chalk Line and Reel, etc.,	38 50

Night Lamps

NO.	DESCRIPTION	PER DOZ.
887	Night Lamp, complete with Burner and Chimney, Brass Band and Ring, assorted colors Opal, Ivory and Turquoise,	$2 75

Height to top of Chimney 4¾ inches

NO.	DESCRIPTION.	PER DOZ.
878	"Nelsa Blu" Night Lamp. Burner and Chimney to match, assorted colors. Extra Chimneys,	$4 60 1 70

Height to top of Chimney, 9 inches.

NO.	DESCRIPTION	PER DOZ.
869	Wide Awake Night Lamp complete with Burner and Chimney, Opal,	$2 75

Height to top of Chimney 4¾ inches

NO.	DESCRIPTION	PER DOZ.
D688	Night Lamp, complete with Burner, Tripod, Chimney and Shade to match Lamp. Pink, Blue and Ivory, Tastefully Decorated Panels. Gold Stripped.	$7 60

Height to top of Chimney, 8½ inches.

NO.	DESCRIPTION	PER DOZ.
D689	Night Lamp, complete with Burner, Tripod, Chimney and Shade to match Lamp. Ivory Blue and Pink, Gold Stripped Decorations Artistically Arranged,	$7 55

Height to top of Chimney, 8½ inches

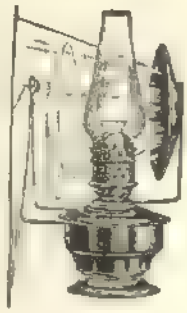
Night Lamps.

No. 674.

NO.	DESCRIPTION	DOZ.
674	Glass Night Lamp, complete with Burner and Chimney, Brass Band and Handle, Assorted Colors.	$2 50

Height to top of Chimney, 7 inches.

No. 58b



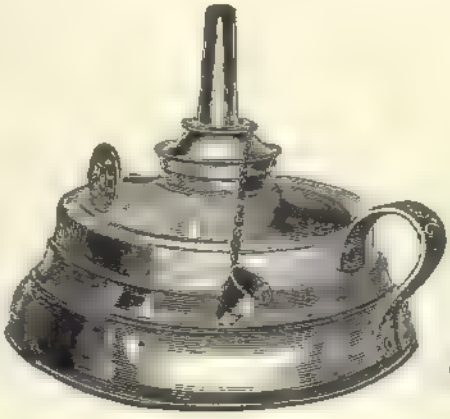
No. 58c

Can be carried in the hand or hung on the wall. The Reflector can be turned in any position, as shown, throwing the light in any direction or shading from the eyes. Burns all night

NO.	DESCRIPTION	DOZ.
58	Shaded Night Lamp, complete with Burner and Chimney, all brass, Highly Polished, Nickel Plated Revolving Reflector,	$4 80

Height to top of Chimney, 7 inches.

No. 675.



No. 673

No. 676

NO.	DESCRIPTION	DOZ.
675	Night Lamp, complete with Gem Burner and Chimney, all Brass,	$2 95

Height to top of Chimney, 7½ inches.

NO.	DESCRIPTION.	DOZ
673	Planters' Hand or Night Lamp complete with Pet Ratchet Burner and Extinguisher, all Brass,	$2 30

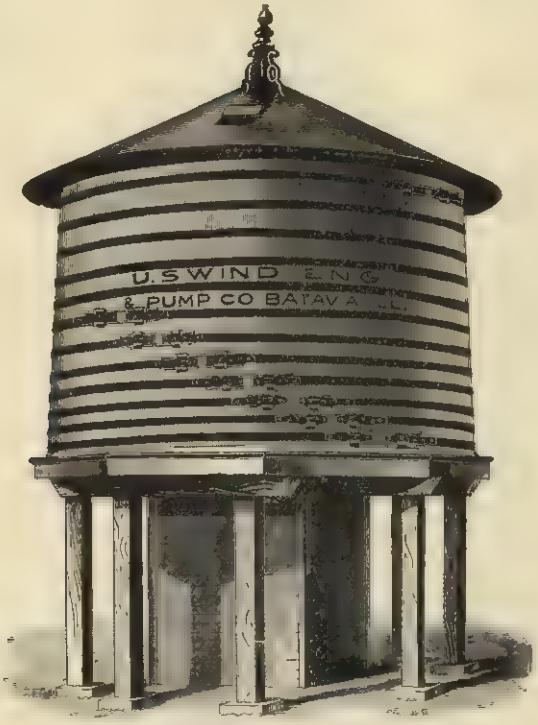
Height, 4½ inches.

NO.	DESCRIPTION	DOZ.
676	Cottage Bed Room Lamp complete with Burner and Chimney, all Brass,	$2 95

Height to top of Chimney, 6½ inches.

STORAGE WATER TANKS.

Fig. 55.



MADE OF 3-INCH LUMBER.

SIZES, CAPACITIES AND PRICES.

Size of Tank		Number of Hoops.	Capacity of Tank		Approx'ate Weight, Pounds.	Price	Size of Tank		Number of Hoops.	Capacity of Tank		Approx'ate Weight, Pounds.	Price
Length of Stave Feet.	Diameter of Bottom, Feet.		Gallons.	Barrels.		With Lug Hoops.	Length of Stave, Feet.	Diameter of Bottom, Feet.		Gallons.	Barrels.		With Lug Hoops.
2½	8	3	663	21	700	$28 00	14	18	10	23487	745	8600	$255 00
2½	10	3	1010	32	1000	38 00	12	20	9	24884	790	9000	285 00
2½	12	3	1480	47	1300	50 00	16	18	12	26992	857	9500	288 00
2½	14	3	2040	64	1800	63 00	14	20	10	29249	922	11000	315 00
10	12	8	7007	222	4060	118 00	16	20	12	33614	1067	12500	355 00
12	12	9	8499	270	4500	138 00	14	22	11	35643	1131	12500	365 00
10	14	8	9721	308	4900	142 00	16	22	12	40983	1300	13000	395 00
14	12	10	9989	317	5200	155 00	18	22	14	46283	1469	14500	445 00
12	14	9	11789	374	5800	160 00	16	24	13	49037	1557	14500	462 00
10	16	8	12875	409	6100	180 00	18	24	14	55404	1759	16000	500 00
14	14	10	13857	440	6400	183 00	20	24	16	61771	1961	18000	585 00
12	16	9	15617	496	6700	198 00	16	30	14	77610	2464	23000	672 00
14	16	10	18357	582	7500	220 00	18	30	15	87491	2777	25500	720 00
12	18	9	19982	634	7500	225 00	20	30	17	97372	3091	28000	830 00
14	16	11	21096	669	8000	245 00							

STORAGE WATER TANKS.

Made of 2-inch Lumber.

These Tanks are thorough in construction and are made to withstand great pressure. The lumber used will not warp or crack, and is treated chemically to withstand rotting.

SIZES, CAPACITIES AND PRICES

Capacity of Tank.	Size of Tank.		Number of Hoops.	Approximate Weight, Pounds.	Price of Tank.	
	Length of Stave, Feet.	Diameter of Bottom, Feet.			With Drive Hoops.	With Lug Hoops.
271 gallons	4	4	4	275	$11 25	$12 50
280 "	2	6	2	275	11 00	11 75
373 "	2½	6	2	325	12 50	13 50
425 "	6	4	5	400	15 25	17 00
514 "	2	8	2	425	16 50	17 50
541 "	3	6	3	400	14 50	15 75
644 "	4	6	4	450	18 00	19 50
685 "	2½	8	2	475	18 50	19 50
818 "	2	10	2	600	23 50	25 00
839 "	5	6	4	525	20 50	22 00
856 "	3	8	3	550	21 50	22 50
905 "	4	7	4	600	22 50	24 50
1025 "	6	6	5	700	24 00	26 00
1091 "	2½	10	2	700	25 50	27 00
1163 "	5	7	4	700	25 00	27 00
1198 "	4	8	4	700	24 50	26 50
1212 "	7	6	6	750	28 00	31 00
1325 "	8	6	7	850	31 50	34 00
1422 "	6	7	5	800	29 00	31 50
1592 "	2½	12	3	900	35 00	37 00
1680 "	7	7	6	900	33 00	36 00
1760 "	10	6	8	950	37 50	41 00
1883 "	6	8	5	900	34 00	38 50
1939 "	8	7	7	950	37 00	40 00
2187 "	2½	14	3	1200	44 00	46 00
2228 "	7	8	6	1000	39 00	42 00
2410 "	6	9	5	1050	40 00	43 00
2456 "	10	7	8	1250	44 00	48 00
2589 "	8	8	7	1200	43 50	47 00
3254 "	10	8	8	1500	52 50	57 00
3286 "	8	9	7	1450	51 00	55 00
3938 "	12	8	9	1750	60 50	66 00
4092 "	8	10	7	1700	57 00	61 00
4162 "	10	9	8	1700	59 50	65 00
5039 "	12	9	9	1950	69 00	75 00
5109 "	10	10	8	1900	67 50	72 50
5923 "	14	9	10	2100	78 50	85 00
5970 "	8	12	7	2000	71 00	75 00
6275 "	12	10	9	2,00	78 50	84 50
7367 "	14	10	10	2500	86 00	95 50
7567 "	10	12	8	2300	84 50	90 00
9154 "	12	12	9	2500	96 50	102 00

Wrightsville Hardware Co.

The Wrightsville Hardware Co., Wrightsville, Pa., was started at Wrightsville, Pa., in 1880, and success has attended its efforts until to-day its shops cover a large area, upon which are erected a number of substantial buildings, such as foundries, machine shops, warehouses, etc., equipped with the latest improved machinery and appli-

ances. A general view of the works, which are situated on the main line of the Pennsylvania Railroad, affording excellent shipping facilities, is shown herewith. The line of manufacture embraces hardware specialties, iron toys and cabinet, building and staple hardware of every description. The officers of the company are Mr. Frank K. Magee, president, and Mr. H. McElroy, treasurer. The latter gentleman is the general manager.

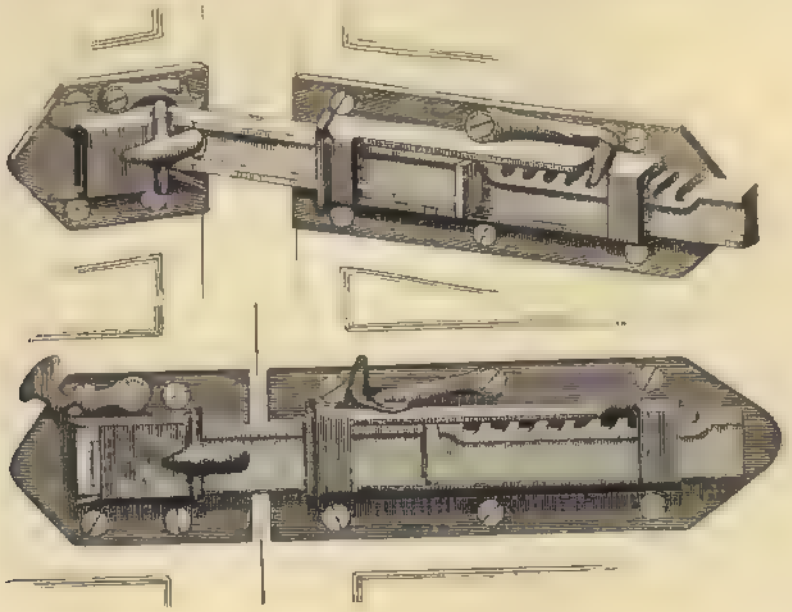
Combined Shutter, Lock and Bower

The Wrightsville Hardware Co., Wrightsville, in offering the "Christman" Combined Shutter, Lock and Bower to the trade and to the builders of the country, state that they do so with the fullest confidence that it is an article which, for convenience, durability and handsome appearance, is not equaled. It is said to be less liable to get out of order than the plain or common bolt in use at the present time. The bowing arrangement is very simple and does not in the least interferfere with the free movement of the bolt in the operation of locking or unlocking the shutter. The finger-piece is made solid with the bolt, and no fitting together and riveting on of the parts is done after they are galvanized or japanned; thus ensuring every part being covered and preventing unslightly rust stains beneath the lock on the shutter.

"Climax" Bicycle Watch

Robt. H. Ingersoll & Bro., 65 Cortlandt St., New York, are offering the "Climax" Bicycle Watch, shown in the accompanying engraving. The watch is stem wind and stem set, 2½ inches in diameter, and weighs five ounces complete. It is furnished with the American lever movement, gilt or nickel, plain or fancy cases, and with either Roman or Arabic dials.

The holder is also shown in the illustra-



tion. It can be very readily attached to any part of a handle-bar or frame. The watch is held securely in the holder by the spring fingers, preventing it from jolting out.

When desired, the watch can be easily removed from the holder and carried in the pocket.

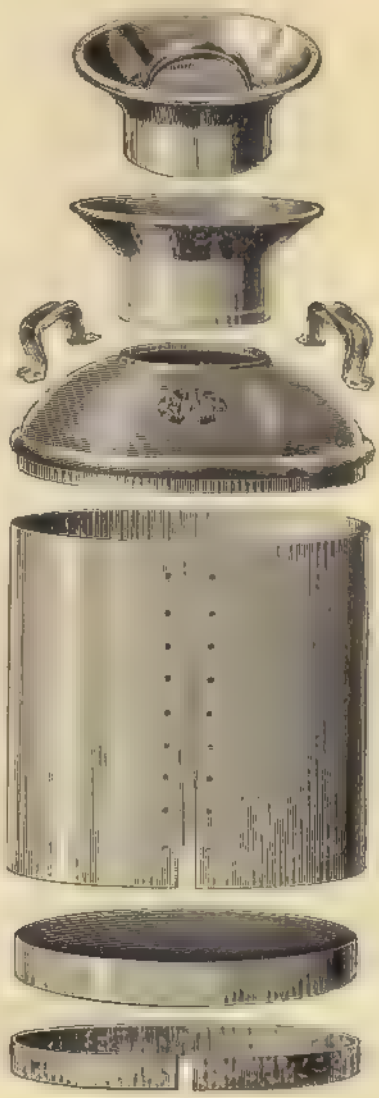
The Capo-Farad Battery

The Capo-Farad Battery & Appliance Works, 27 Thames St., New York, is placing on the market the Capo-Farad Battery, shown in the engraving, which is full size. Mr. James J. Pearson, recognizing the field for a battery that would combine the efficiency of a wet cell with a dry cell's freedom from care and attention, invented the Capo-Farad, a hermetically sealed battery. It has a very high voltage and is of small size, the strength of the cell being as follows: Volts, 1.25; Amperes, 2.00.

One cell will ring an ordinary door bell for a year, and for blasting purposes it will fire through 130 feet. It is suitable for testing, signaling, electrolysis, Ruhmkorff and Faradic coils, and for many purposes requiring a battery. The battery is guaranteed by the manufacturers.

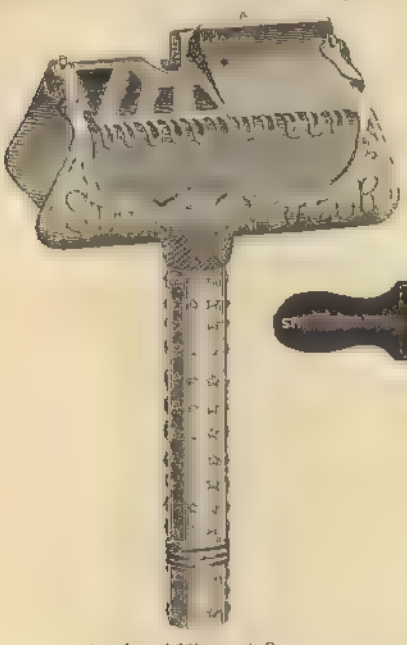
Seamless Milk-Can Neck

The Chicago Stamping Co., 227 South Green St., Chicago, Ill., are manufacturing the new Seamless Milk-Can Neck and Seamless Cover, which we illustrate herewith. The neck and the outside shell of the cover are each drawn in one piece. The center



Star Safety Razor

Kampfe Bros., 8 Reade St., New York, manufacturers of the "Star" Safety Razors,



Sectional View of Razor.

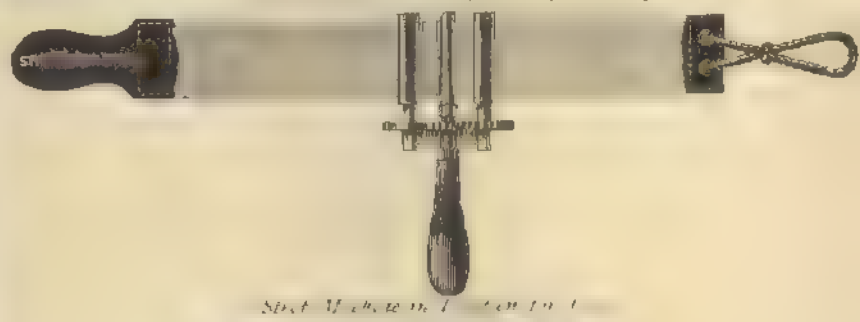
present a line particularly adapted for holiday trade.

The blades are manufactured of the finest steel, fully concaved and ground, and so tempered as to make each blade a magnet in itself.

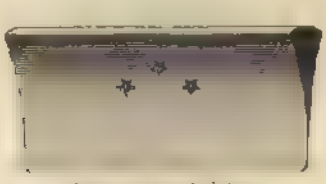
The illustrations show in addition to the razor alone some of the various cases which are provided for holding from two to seven blades each, with the other shaving necessities.

The blade case is for holding two blades and illustrates how safely and conveniently the blades may be carried or sent through the mails.

The Gem case is elegantly gotten up in



Side View of Razor.



End Sectional View.

Blade Case.

The "Gem" Case.

morocco, and contains one safety frame with two blades.

The traveling case is of similar style, and contains one safety frame, with two blades, box of perfumed shaving soap; shaving brush, comb and cosmetique. Other cases are made to hold seven blades, and other

The Traveling Case.

combinations of contents, including their strop machine.

Their Stropping Machine, of which we show an illustration in position for use, is a very ingenius affair, since it automatically reverses the blade upon the strop, preventing the cutting edge from injury

Common Sense Self-Tilting Kettle

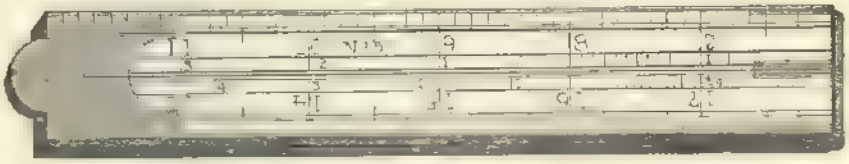
R. B. Vanderburg & Co., 21 Wabash Ave., Chicago, Ill., have recently patented and are now offering the trade the Common Sense Kettle, illustrations of which we present herewith. The kettle has a double bail, one shorter than the other, being linked at the center. These bails are hung to ears having double lugs. The rear lug is almost in the center of the kettle, while the forward lugs are about one inch nearer the lip. The object of this arrangement is to get the leverage for tipping. The ears are made

rights and lefts. The rear lug referred to rises straight from the kettle, while the front lugs are made with a groove directly above the rim of kettle. This groove closely curves with the kettle, thus making the forward grooves closer together than the rear parts. By this arrangement any style lid slips in from the back and falls in the grooves, thus preventing it from slipping over or from falling forward.

In operating for draining vegetables the four fingers hold the shorter bail, while the thumb presses forward the long bail, causing the kettle to tip very easily. The steam

Boxwood Rules.

Two Feet, Four Fold, Narrow Rules.

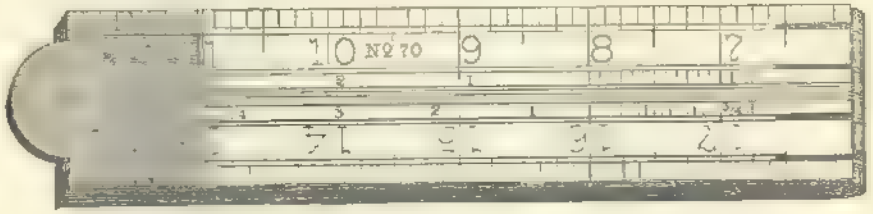


No. 82

NO.	DESCRIPTION	PER DOZEN
82	Arch Joint, Half Bound, 8ths, 10ths, 12ths and 16ths of inches, Drafting Scales 1 inch wide	$13 00
84	" " Bound, " " " " " " " 1 " "	16 00
86	Double Arch Joint, Bound, " " " " " " " 1 " "	9 00

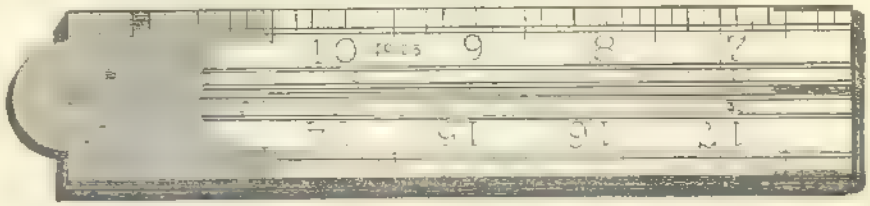
HALF DOZEN IN A BOX.

Two Feet, Four Fold, Broad Rules.



NO.	DESCRIPTION.	PER DOZEN
72	Square Joint, Edge Plates, 8ths, 10ths and 16ths of inches, Drafting Scales 1¼ inches wide	$9 00
72½	" " Bound, " " " " " 1¼ " "	18 00

HALF DOZEN IN A BOX.



No. 75.

NO.	DESCRIPTION.	PER DOZEN.
75	Arch Joint, Edge Plates, 8ths, 10ths and 16ths of inches, Drafting Scales, 1¼ inches wide,	$11 00
76	" " Bound, " " " " " 1¼ " "	20 00
76½	Double Arch Joint, Bound, " " " " " 1¼ " "	24 00

HALF DOZEN IN A BOX.

Two Feet, Four Fold, Board Rules.

NO.	DESCRIPTION	PER DOZEN
81	Arch Joint Edge Plates, 12ths and 16ths of inches Drafting Scales, 1¼ inches wide,	$13 00

HALF DOZEN IN A BOX.

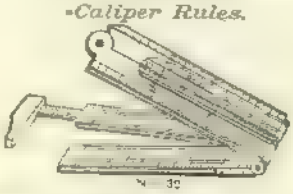
Boxwood Rules.

Two Feet, Two Fold Rules.

NO.	DESCRIPTION.	PER DOZEN
26	Square Joint, Slide, 8ths, 10ths and 16ths of inches, Octagonal Scales, 1⅛ in. wide,	$9 00
18	Square Joint, 8ths and 16ths of inches, 1¼ in. wide,	5 00

HALF DOZEN IN A BOX

Caliper Rules.

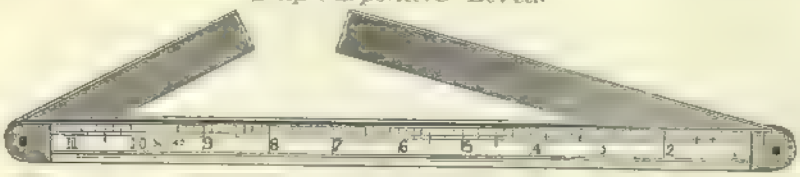


No. 30

NO.	DESCRIPTION.	PER DOZEN
30	Square Joint, Two Fold, 8ths, 10ths, 12ths and 16ths of inches, ¾ in. wide	$ 7 00
32	Arch Joint, Edge Plates, Four Fold, 12ths, 10ths, 12ths and 16ths of inches, ¾ in. wide	12 00
32½	Arch Joint, Brass Bound, Four Fold, 12ths, 10ths, 12ths and 16ths of inches, ¾ in. wide	20 00

HALF DOZEN IN A BOX

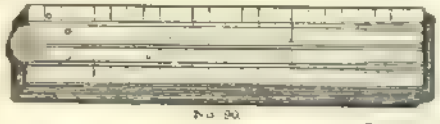
Ship Carpenters' Bevels.



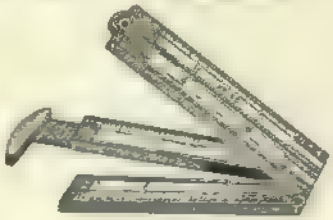
NO.	DESCRIPTION	PER DOZEN.
42	Boxwood, Double Tongue, 8ths and 16ths of inches	$9 00

ONE DOZEN IN A BOX

Ivory Rules.



No. 90



No. 91

One Foot, Four Fold.

NO.	DESCRIPTION.	PER DOZEN.
90	Round Joint, Brass Middle Plates, 8ths and 16ths of inches, ¾ in. wide	$10 00
92½	Square Joint, German Silver Middle Plates, 8ths and 16ths of inches, ¾ in. wide,	14 00
92	Square Joint, German Silver Edge Plates, 8ths and 16ths of inches, ¾ in. wide,	17 00
91	Square Joint, German Silver Edge Plates, 8ths, 10ths, 12ths and 16ths of inches, ¾ in. wide	23 00

No. 90, ONE DOZEN. Nos. 92½, 92 AND 91, HALF DOZEN IN A BOX

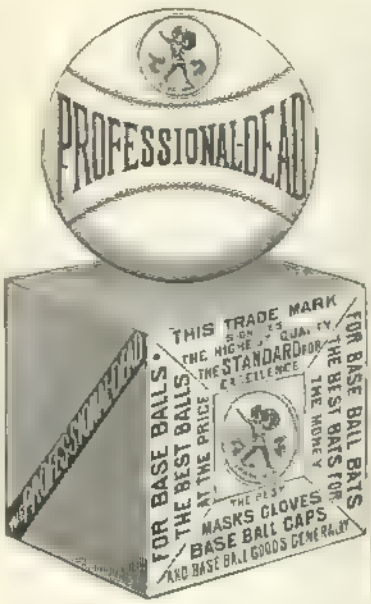
Caliper Rules.

NO.	DESCRIPTION.	PER DOZEN.
38	Square Joint, German Silver, Two Fold, 6 inches, 8ths, 10ths, 12ths and 16ths of inches, ¾ in. wide,	$15 00
40	Square Joint, German Silver Bound, Two Fold, 6 inches, 8ths and 16ths of inches, ¾ in. wide,	24 00
40½	Square Joint, German Silver Bound, Four Fold, 12 inches, 8ths and 16ths of inches, ¾ in. wide,	44 00

HALF DOZEN IN A BOX

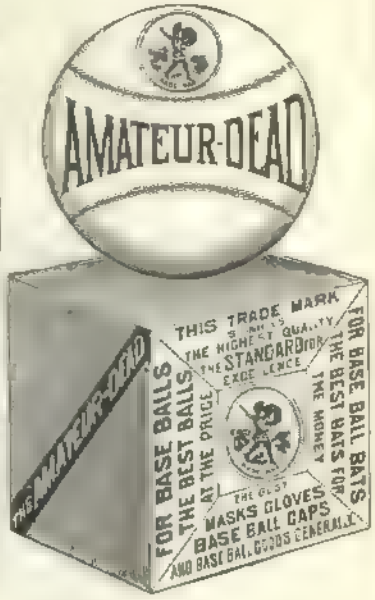
Base Balls.

Our Own Trade-Marked.



Professional Dead Base Ball.

No.	DESCRIPTION	Price
X 4	Professional Dead Ball, Red or White [illegible]	$9 00



Amateur Dead Base Ball.

No.	DESCRIPTION	Price
X 1	Amateur Dead Ball, Red [illegible] Ball for practice games made Regulation Size and covered with Horse-hide; each Ball put [illegible]	$7 00

Comet Ball.

No.	DESCRIPTION	Price
X 3	[illegible] and Covered with Horse-hide, the best 50 cents [illegible] Ball made; each Ball [illegible]	$5 00

Home Run Ball.

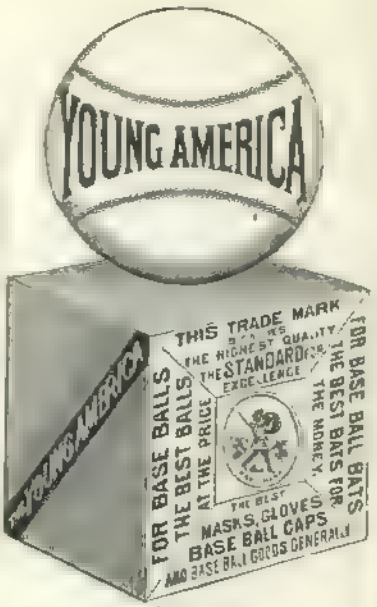
No.	DESCRIPTION	Price
X 8	Ball [illegible] separate box.	$4 00

Base Balls.

No. X 10.

Junior Base Ball

No.	DESCRIPTION.	PER DOZ
X 10	Junior Ball, Red or White; the Best Ball for the [illegible] market. Boys' Base Ball.	$ [illegible]



No. X 11.

Young America Base Ball.

No.	DESCRIPTION.	PER DOZ
X 11	[illegible] America Ball. White, Boys' Base Ball.	$ .90

Champion Base Ball.

No.	DESCRIPTION.	PER DOZ
X 12	[illegible] Ball. Boys' Base [illegible]	$1.05

Dandy Ball.

No.	DESCRIPTION.	PER DOZ.
X 13	[illegible] Cover, for [illegible] Ball.	$ [illegible]

No.	DESCRIPTION.	PER DOZ.
X 14	[illegible] Ball, [illegible]	$ [illegible]

Iron Chandeliers.

French Bronze Finish.

NO.	NO. OF ARMS	DESCRIPTION	EACH.
222	2	Complete, as shown above, -	$ 6 00
223	3	Complete, as shown above, -	7 85
226	6	Complete, as shown above, -	14 80

These Chandeliers are completed with Glass Founts, 5 inch Opal Globes, No. 2 Burner and Chimney. May be lighted or filled without removing Burner, Chimney or Globe. Length, 36 inches. Spread, 30 inches.

French Bronze Finish.

NO.	NO. OF ARMS	DESCRIPTION	EACH.
233	3	Complete, as shown above, -	$7 40
234	4	Complete, as shown above, -	9 25

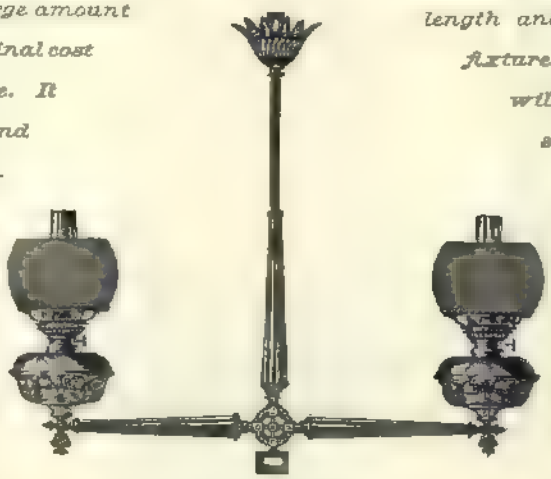
These Chandeliers are completed with Glass Founts, 5 inch Opal Globes. No. 2 Burner and Chimney. May be lighted or filled without removing Burner, Chimney or Globe. Length, 36 inches. Spread, 28 inches.

FOR OTHER GLOBES, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

Chandeliers.

We commend this Chandelier those wanting a large amount of light at a nominal cost for the fixture. It is cheap and practical.

Particular attention is called to the length and spread of this fixture. A few of them will light a good sized store.



Nos. 142 to 169.

THIS IS A LARGE FIXTURE, SUITABLE FOR LIGHTING STORES, WAITING ROOMS AND PUBLIC HALLS.

LENGTH, 45 INCHES; SPREAD, 54 INCHES.

NO	DESCRIPTION.	EACH.
142	Two Arm Chandelier, with Glass-Founts, Burners, Chimneys and 5 inch Engraved Globes, French Bronze Finish; Length, 45 inches; Spread, 54 inches,	$ 6 50
162	Same as No. 142, but with No. 2 Central Draft Founts, Chimneys and 5 inch Engraved Globes,	9 70
182	Same as No. 142, but Ebony and Gold Finish,	6 95
202	Same as No. 162, but Ebony and Gold Finish, with No. 2 Central Draft Founts, Chimneys and 5 inch Engraved Globes,	10 20

FOR OTHER GLOBES, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

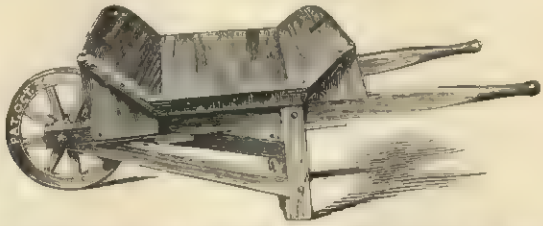
IMPROVED RAILROAD AND DIRT BARROWS.

With Thomas' Patent Steel and Wood Wheels.

COMMON RAILROAD No. 1.

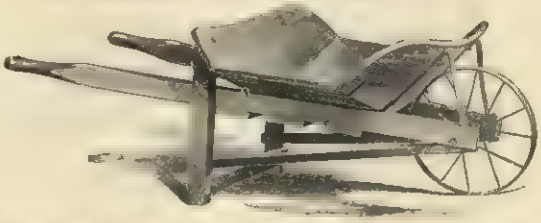
The above cut shows our new style of tenoned stays or corners for Railroad Barrows No. 1. By the aid of this tenon we are enabled to bring our trays more over the wheel, bringing most of the load on the wheel instead of the handles. We pack them in half dozen lots *knocked down* and nested in compact shape. Weight about 600 lbs. per dozen. Price, with wood wheels, per dozen, $13.00; with steel wheels, per dozen, $15.00.

IMPROVED RAILROAD No. 1.



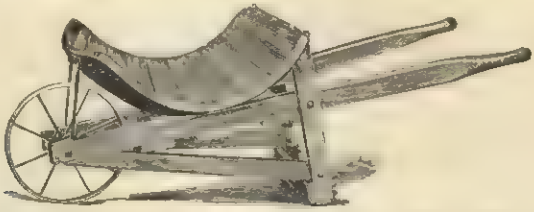
The above cut shows our new Improved Bolted No. 1 Barrow. Tray is bolted to the handles. Legs and braces are all bolted. A very strong and durable barrow. In ordering, specify *improved* No. 1. Weight about 600 lbs. per dozen. Price, packed "knocked down" in half dozen lots with wood wheel per dozen $13.50, with steel wheel, per dozen $15.50.

CONTRACTORS' AND FARM BARROW No. 15.



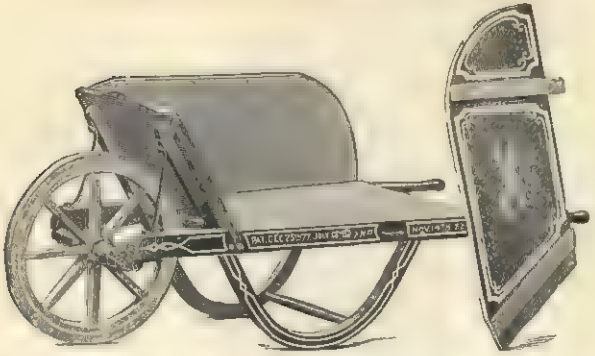
This is a new Barrow, very popular for general use. It is iron braced in front and substantially made throughout. Weight about 600 lbs. per dozen. Price, in half dozen lots, "knocked down" and crated with wood wheel, per dozen $14.00; with steel wheel, per dozen, $15.60.

TROJAN No. 2.



This Barrow has sawed staves, bent and well seasoned before being set up and will not split in a dry or wet climate. It is an *all bolted* barrow. Weight about 600 lbs. per dozen barrows. Price, packed in half dozen lots, "knocked down" and nested, with steel wheel, per dozen, $15.60; with wood wheel, per dozen, $14.00.

JOINTLESS BENT LEG GARDEN BARROWS.



No. 8.

It has jointless bent legs, for lightness and strength. Can be slid on the lawn without tearing up the sod or punching holes in it. Has 26-inch steel or wood wheel, 1¾ inch tread, and chilled cup boxes. Neatly painted, striped and varnished.

Price, No. 8 with Wood Wheel, per dozen $45 00
Price, with Steel Wheel, per dozen 48 00

Price, No. 6 lighter Barrow with Wood Wheel, per doz. $37 00
Price, with Steel Wheel, per dozen 40 00

No. 10.

PATENT BENT LEG COAL BARROW.

Has bent legs and is an all-bolted barrow; has a 21-inch bed, and holds 280 pounds of coal. Steel wheel only.

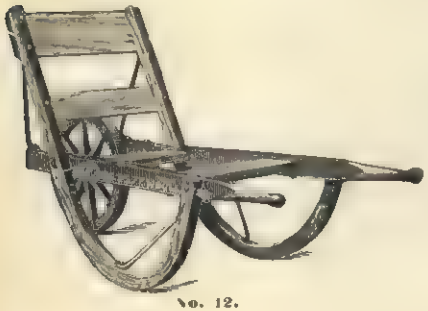
Price, per dozen $44 00

BENT HANDLE SOLID BOTTOM STONE BARROW.

Our No. 13 Barrow has a heavy 2-inch tire wheel. Barrow is painted and ironed off in good shape. Wood wheels only.

Price, per dozen $37 50

No. 13.



No. 12.

THOMAS' STAVE AND WOOD BARROW.

This Barrow is thoroughly bolted and very strong. The load is well balanced over the wheel. Its legs form the front, which makes it a very strong barrow. It has a large 20-inch wheel.

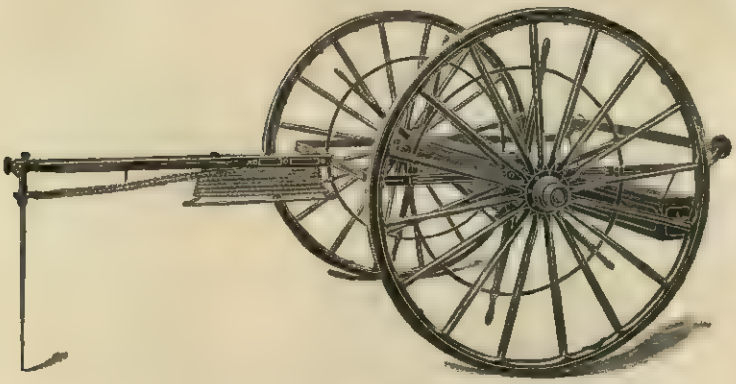
Price, per dozen, Wood Wheels only $15 00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

FIRE DEPARTMENT SUPPLIES.

HOSE REELS.

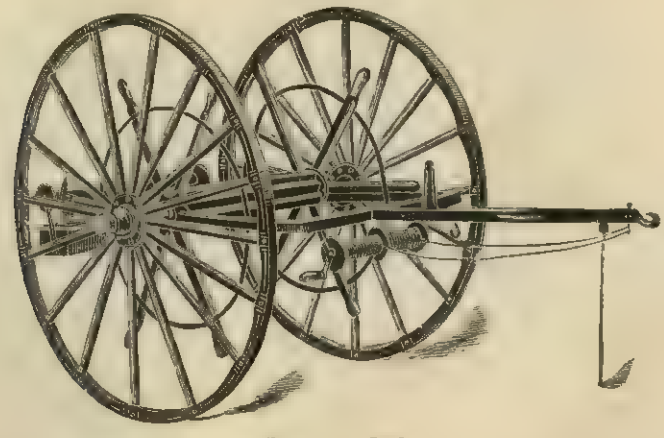
Fig. 1712



Our Improved No. 10

Hose Reel is calculated to carry 600 feet of 2½ inch Fire Hose for twenty years, is a solid, well-made Reel, with steel frame and hand forging; has Sarvern wheels, is brass trimmed, well finished in vermillion, striped in gold: is equipped with tool box and roller in rear, also one fire axe, one steel crow bar, 60 feet drag rope and bracket reel for same. Being thus made with steel and Norway forgings, this reel is extremely light and strong. Weight, 275 pounds. Price, $75.00 net.

Fig. 1713



No. 10 A.—Reel

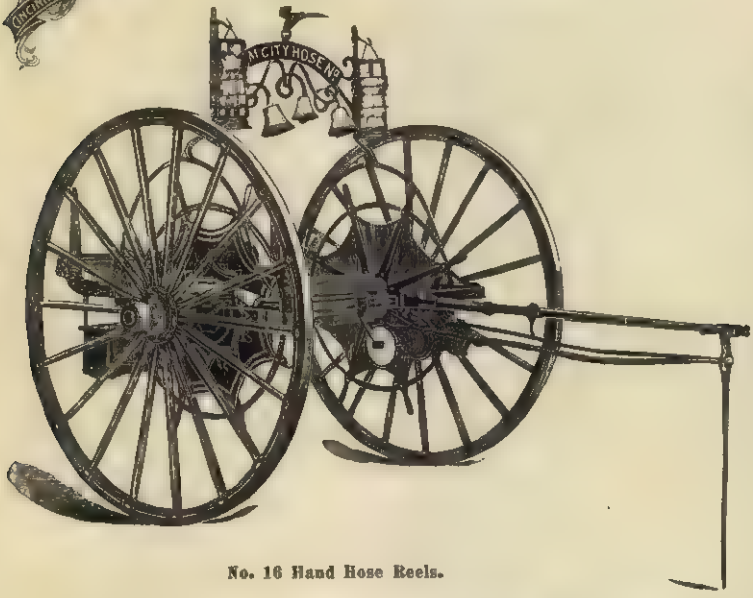
Is the same as No. 10, only has solid brass, drag rope Reel and brass pole crab and hook and brass hub bands on wheels. Net price, $90.00. Weight, 300 pounds.

For Hose Reels see also pages 167 and 168.

FIRE DEPARTMENT SUPPLIES.

HOSE REELS.

Fig. 1714



No. 16 Hand Hose Reels.

Seagrave's No. 16 Hand Hose Reel

is calculated to be the finest in the market in appearance and finish, at the same time having great strength and durability combined with large wheels and great carrying capacity. Frame and pole are one solid steel forging set on steel axle, with 5½ or 6 foot best Sarvern wheels, having solid brass cap hub bands.

Is equipped with 1 fire axe, 1 steel crow-bar, 2 nozzle holders, 1 tool box, 2 improved brass or nickel plated lanterns with water shield. Has 60 feet drag rope, solid brass reel for drag rope. Fitted also with beautiful arch having 3 improved chime bells or improved double gong, and arch being crowned with a beautiful brass eagle.

Pole Crab and all tips and ends are of brass. The entire outfit finished in carmine and gold, or in colors to suit, with lettering as desired.

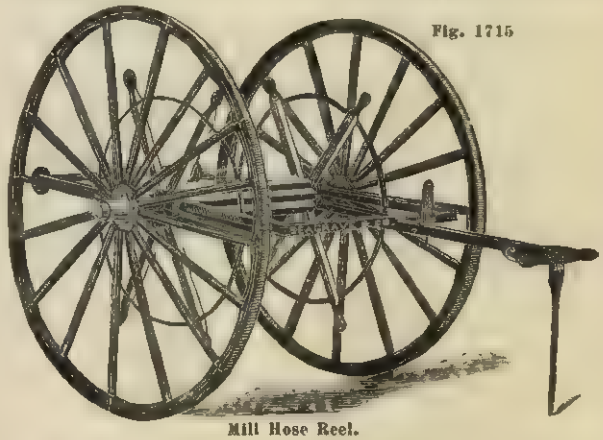
Capacity, 700 ft 2½ in. hose Weight, 400 pounds. Price, $250.00. With increase of capacity to 1000 ft of 2½ in hose, add $50.00

Seagrave Mill Hose Reels are made in the following sizes:

No.					Price.
00.	To carry	200	feet of 1 inch	rubber hose	$12.00
0.	"	200	" 1½"	"	18.00
01.	"	200	" 2 "	"	25.00
1.	"	200	" 2½"	"	30.00
2.	"	300	" 2½"	"	35.00
3.	"	500	" 2½"	"	45.00

Nos. 00, 0 and 01 have wooden frames and agricultural wheels. Nos. 1, 2 and 3 are made with iron frame and roller, agricultural wheels, our improved open drum, also pipe holder, and are very light and durable. When desired for small fire departments, we equip with tool box, gong, axe, crow-bar, etc., at the lowest additional cost. We use wheels from 42 to 56 inches in diameter, according to size of cart and width of track desired. Should any other sizes than the above be wanted, we are prepared to make them at short notice.

Fig. 1715



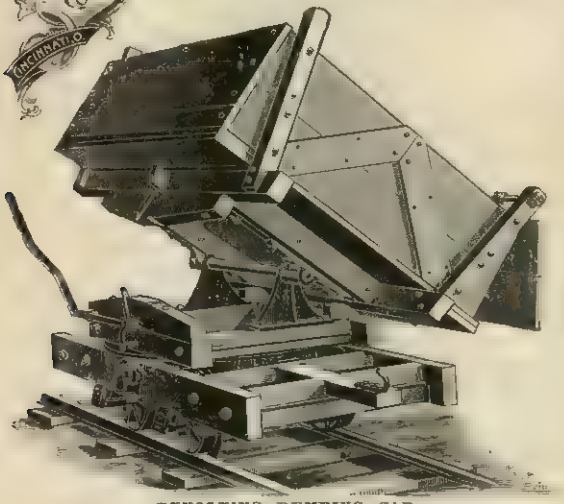
Mill Hose Reel.

These Reels are an improvement over any other made of same class in added capacity, finish and utility, including brass cap hub bands, etc.

(For Hose Reels see also pages 167 and 168.

AUTOMATIC DUMPING CARS.

Fig. 1006. For Contractors' Use.



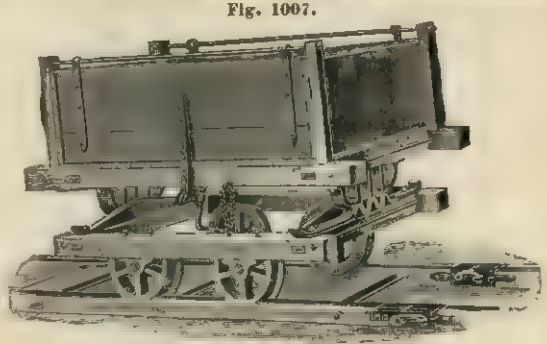
REVOLVING DUMPING CAR.

THIS Car is the most complete all-around dumping car on the market. *Will Dump on Four Sides.* It has a center pivoted bearing. The bed revolves upon a large disc wheel supported upon rollers at its outer edges, avoiding all tendency to tip or strain in dumping. It possesses all the advantages of others of its class, besides being practically automatic.

SIZES, CAPACITIES AND PRICES.

	CAPACITY.	GAUGE.	PRICE.
No. 0	2 cu. yds	36 in	$100.00
" 1	1½ "	36 in	90.00
" 2	1¼ "	36 in	85.00
" 3	1 "	36 in	80.00

Fig. 1007.



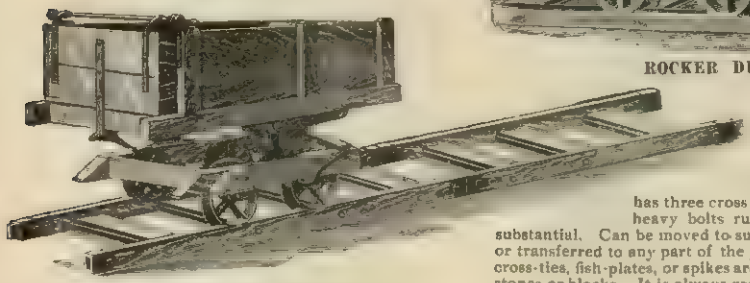
ROCKER DUMPING CAR.

IMPROVED DUMPING CARS.

This car is designed for brick yard transportation; it dumps on either side, and can be drawn from either end. It is well built of best materials, and is strong and substantial.

Capacity, ¾ cubic yards, 1¼ tons, gauge, 24 inches, weight, 700 pounds, each, $45.00.

Fig. 1008.



PORTABLE TRACK.

An article of great convenience to the brick-maker is Portable Track, made in sections with our improved locking joints—all sections are interchangeable. It is ironed on top with 1½ x ¼ iron; has three cross braces mortised into the sides with heavy bolts running through and through—very substantial. Can be moved to suit the clay bank, taken up in winter, or transferred to any part of the yard at will. In using this track no cross-ties, fish-plates, or spikes are required, it is simply leveled up by stones or blocks. It is always ready for use.

Sections 12 feet long, 24 or 26 in. gauge .....70 cts. per ft.
" 14 " 24 or 26 " .....65 "
Sections 16 feet long, 24 or 26 in. gauge.....60 cts per ft.
" 18 " 24 or 26 " .....55 "

Switches 14 feet long, any gauge, $45.00.

Curves, 25 per cent. advance on Track List.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

AUTOMATIC DUMPING CARS.

For Contractors' Use. **Fig. 1004.**

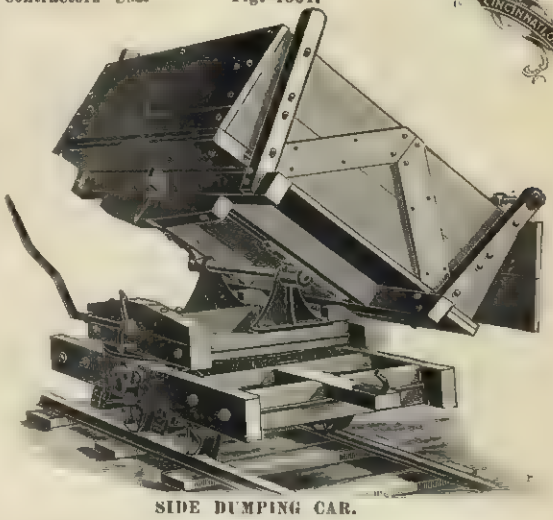
THESE cars are particularly adapted for use in brick yards, quarries, gravel and sand pits, and for light grading of all kinds. Their novelty and convenience consists in being entirely automatic. Their operations being controlled by the force of gravity, and not by any mechanical or complicated device.

By reason of their peculiar construction, the preponderance of the weight of the load is on the dumping side of the pivot bar when loaded and on the reverse side when empty. *The weight of the loaded dumps the car*, the weight of the empty bed returns it to position. It is required only to draw the lever to operate them, or, where convenient, a trip-bar placed on the track will accomplish the same result.

The No. 0 Car (2 cu. yds.) is the largest and heaviest car we make. It is constructed for steam shovel service and contractors' work. Made to order only, for any width of track desired.

The No. 1 and 2 Cars (1½ and 1¼ cu. yds.) are sizes best adapted for brick yards, gravel and sand pits, and ordinary grading. They can be hauled singly or in trains, and are convenient for use either with winding drum or teams.

The No. 3 Car (1 cu. yd.) When a smaller car can be used, the No. 3 is recommended. It can be hauled singly or in trains, being light and strong It is well calculated to operate with the winding drum or any light power



SIDE DUMPING CAR.

SIZES, CAPACITIES AND PRICES.

No. 0	Capacity, 2	cu. yds.	Gauge, 30 in		Price, $80.00
" 1	" 1½	"	" 28 in		" 70.00
" 2	" 1¼	"	" 26 in		" 65.00
" 3	" 1	"	" 26 in		" 60.00

Fig. 1005.

END DUMPING CAR.

FOR CONTRACTORS' AND BRICK YARDS.

The End Dumping Car is especially adapted for contractors' work and also for dumping into pug mills, soak pits, and for other brick yard uses. It can be run singly or in trains, and is fitted for operation with the winding drum, or teams.

CONSTRUCTION.

The entire frame work selected white oak. The sills of bed are 3 in. x 4 in., and of truck 3 in. x 6 in. The bed is lined throughout with 1¼ in. oak. All frame work is mortised and bolted in the most rigid manner. The axles are 1¾ and 2 in. iron or steel, have turned bearings and are run in our improved self-oiling boxes. The wheels are 14 in. high, have a wide face, thoroughly chilled. They are lathe bored and are compressed on the axles. The car is completed with three coats of best mineral paint. Brakes furnished are extra.

SIZES, CAPACITIES AND PRICES.

No. 0	Capacity, 2	cu. yds	Gauge, 30 in		Price, $80.00
" 1	" 1½	"	" 28 in		" 70.00
" 2	" 1¼	"	" 26 in		" 65.00
" 3	" 1	"	" 26 in		" 60.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

ASBESTOS MATERIAL.

Fig. 1677

Asbestos Roof Coating.

This Coating is composed of ground asbestos and Silica, combined with partially distilled coal tar and an acid and waterproof composition, and is prepared ready for use, to be applied with a brush. It is used for coating the Asbestos Roofing, and forms a durable and economical Coating for Felt and Canvas Roofs. It is also used for coating posts, spiles, dock-timber, etc., being an excellent preservative and proof against worms. One gallon will cover 100 square feet, one heavy coat.

	Bbls.,	Kegs,	Pails.
Per Gal. U. S.	50 to 30 gals.	20, 15, 10 and 5 gals.	3, 2 & 1 gal.
Standard Measure	40 cts.	45 cts.	50 cts.

Asbestos Roof Cement.

This is prepared ready for use, and forms an elastic, adhesive compound, of a consistency to be easily applied with a trowel. It is used for repairing leaks around chimneys, dormer windows, skylights, scuttles, etc., on all kinds of Roofs, and for broken joints, nail and rust holes in Tin Roofs, etc.

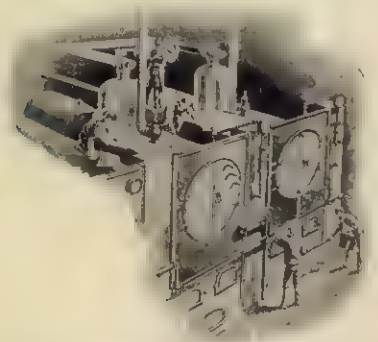
Leaky Tin and Iron roofs can be rendered serviceable for many years with the Brown Cement and our Asbestos Roof Paints.

The Black Cement is used with our Asbestos Roof Coating for repairing old Canvas, Felt and other Roofs.

Full instructions on every package.

	50 and 25 lb. Pails.	10 lb. Cans.	5 lb. Cans.
Black	.5 cts per lb.	75 cts. each.	50 cts. each
Brown	$8\frac{1}{2}$ " "	$1.00 " "	75 " "

Fig. 1678



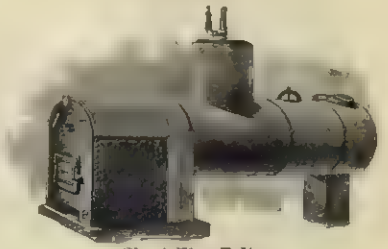
Asbestos Cement Felting.

This is composed of Asbestos fibre, infusorial earth and a cementing compound forming a light, porous covering, partaking of the nature of a felt and a cement, to be applied with a trowel to Steam Pipes, Boilers, Stills, etc., while heated, and is recommended for all purposes where more than 80 pounds of steam is carried. It is put up in barrels and bags, dry, to be mixed with water to the consistency of mortar, and can be easily applied by unskilled workmen. One bag contains sufficient material for covering 40 square feet, flat surface, 1 inch thick. Per bag or barrel, $3.75

Fig. 1679.

Specimen of Asbestos in its natural state.

Fig. 1680



Sheet Fire Felt.

For covering boilers, etc., is made in sections, which can be removed and replaced without injury. It is especially valuable for Marine and other high pressure Boilers.

In sheets	3x2 feet,	$\frac{1}{8}$ inch thick	.....	per sq. ft.,	15 cts.
"	3x2 "	1 " "	.....	" "	22 "
"	3x2 "	$1\frac{1}{4}$ " "	.....	" "	28 "
"	3x2 "	2 " "	.....	" "	35 "

Fig. 1681

Asbestos Fire Felt.

Roll Fire Felt.

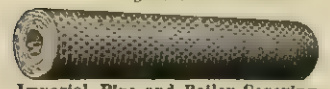
This is a fire-proof Felt, composed entirely of Asbestos, and is similar in texture to hair felt. It is used for covering hot-air furnace pipes, lagging boilers of locomotives and high-pressure steam-heating apparatus, and forms the best nonconducting lining under other coverings for similar purposes.

In rolls	300 sq. ft.,	36 in. wide,	$\frac{1}{16}$	in. thick	.....	per sq. ft.,	6 cts.
"	300 "	36 " "	$\frac{1}{8}$	" "	.....	" "	7 "
"	300 "	36 " "	$\frac{1}{4}$	" "	.....	" "	10 "

(FOR ASBESTOS PACKING SEE PAGE 171)

ASBESTOS PIPE COVERING.

Fig. 1682



Imperial Pipe and Boiler Covering.

For covering steam and hot water pipes, boilers, heaters, domes, stills, tanks, breechings, etc.

In purchasing a good covering for surfaces, it is of the utmost importance to take into consideration the number of years the covering will last and do good service, as well as its power for resisting high temperature, and its non conducting properties. The durability of coverings varies greatly in the different kinds. Some will break or fall off the heated surfaces or become otherwise defective in a year or two; others being unable to resist high pressure become charred or burned, and are thus useless as insulators.

A good covering should be one that can be removed when necessary to make changes, or repair leakage or other damage to pipes, and be replaced without injury to itself.

Many coverings on the market are moulded into shape, and it is difficult or next to impossible on the first application to place the covering on the pipes without producing fractures or cracks in the different sections.

Much of this covering being broken or crushed when the attempt being made to remove it, falls to pieces and entirely new covering is required. Then again, this class of covering when exposed to dampness or wet steam disintegrates and falls to pieces

Our "Imperial" is of an entirely different construction It is made of successive layers of pure indented asbestos felt, wire stitched at the edges and covered with a heavy canvas jacket.

By virtue of its construction and the materials used, two of the most effective insulators known to science are united and employed, for in addition to asbestos, which has no superior as a resister of heat or fire proof qualities, the indentations in the felt produce numerous confined air spaces, thus asbestos and air are combined in this newest and best of pipe coverings.

It is light in weight, will stand all extremes of heat, is firm and elastic, will not sag on the pipes, will not crack or crumble from vibration, and can be removed and replaced a hundred times if necessary without injurious results, as it is practically indestructable. It is an ideal covering for train pipes and has been adopted by many railway companies for that purpose.

The surface of this covering, presents, by reason of the protuberance of the felt beneath the canvas jacket, a highly ornamental appearance, thus rendering it more attractive where it comes into view, as in case of its use in hotels, public buildings, etc.

Fig. 1683 Fig. 1684 Fig. 1685

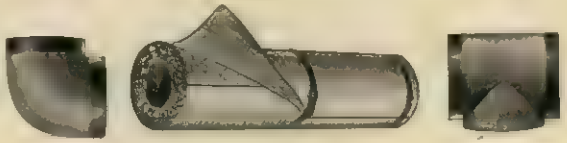
Ells. Tees. Crosses.

The fittings such as ells, tees, crosses and valves, are of exactly the same formation as the sectional covering, and are so shaped as to fit any of the joints perfectly without extra labor being required to trim or to form them so as to make neat perfect joints. The covering and fittings are furnished ready for application, a sufficient quantity of small staples being supplied with each shipment. After the covering has been applied on the pipes and the staples driven into it to hold it in place, the canvas lap is drawn over and pasted down. When this is accomplished in a workmanlike manner, it presents a neat and finished appearance and will give the best of results.

SIZES AND PRICES OF IMPERIAL COVERING.

Size	Cov.	Ells.	Tees.	Valves.
½ to ¾ inch	22c.	28c.	30c.	30c.
1 to 1¼	25	25	32	32
1½	27	27	35	35
2	29	29	40	40
2½	33	35	45	45
3	37	40	50	50
3½	41	45	58	58
4	46	50	66	66
4½	50	57	76	76
5	55	65	88	88
6	61	72	$1.00	$1 00
7	69	82	1 15	1.15
8	77	95	1.30	1.30
9	88	$1 10	1 50	1 50
10	$ 100	1 25	1.75	1.75
12	1 25	1 50	2 00	2 00

Fig. 1686 Fig. 1687 Fig. 1688



Ell. Asbestos Moulded Covering. Tee.

This covering is made of asbestos fibre and other light non-conductive materials. It is very strong; is absolutely fire-proof, and is adapted for highest steam pressure. It will not crack, and is made to fit pipes of all diameters from one-half inch upward. The fittings are furnished of the same materials and fit perfectly.

It can be easily applied to hot or cold pipes by any practical man. We always send with this covering sufficient metal bands to securely fasten it to the pipes.

SIZES AND PRICES OF ASBESTOS MOULDED COVERING.

Size	Cov	Ells.	Tees.	Valves.	Size.	Cov.	Ells.	Tees.	Valves.
½ to ¾ inch	20c	24c.	27c.	20c.	4½ in.	43c.	43c.	61c.	61c
1 to 1¼	21	24	30	22	5	49	49	67	67
1½	23	24	33	24	6	56	56	73	73
2	26	27	36	27	7	64	64	82	82
2½	29	29	39	39	8	70	70	91	91
3	32	32	45	45	9	77	77	$1.03	$1.03
3½	35	35	50	50	10	85	85	1 15	1 15
4	38	38	55	55	12	$1.00	$1 00	1 30	1 30

MAGNESIA AND MAGNABESTOS PIPE COVERING.

Fig. 1689

Magnesia Sectional Coverings,

FOR WROUGHT IRON PIPE,

In Canvas Jacket Sections, 36 inches in length.

Inside Diameter of Pipe	Weight of Covering per Lineal Foot.	Price per Lineal Foot Canvas-Jacketed.
⅛ inch.	8 ozs.	$0.15
¾ "	9 "	.16
1 "	10 "	.18
1¼ "	12 "	.20
1½ "	15 "	.22
2 "	18 "	.24
2½ "	20 "	.27
3 "	24 "	.30
3½ "	28 "	.34
4 "	30 "	.38
4½ "	38 "	.42
5 "	44 "	.46
6 "	48 "	.50
7 "	55 "	.55
8 "	65 "	.60
9 "	75 "	.65
10 "	85 "	.75

Fig. 1693

Magnabestos Sectional Coverings.

FOR WROUGHT IRON PIPE,

In Canvas Jacket Sections, 36 inches in length.

Inside Diameter of Pipe	Price per Lineal Foot Canvas-Jacketed	Inside Diameter of Pipe	Price per Lineal Foot Canvas Jacketed
⅛ inch.	$0.15	4 inch.	$0 26
¾ "	.15	4½ "	29
1 "	.15	5 "	.32
1¼ "	.15	6 "	.35
1½ "	.15	7 "	.40
2 "	.16	8 "	.45
2½ "	.18	9 "	.50
3 "	.20	10 "	.60
3½ "	.23	"	

Fig. 1690

Fig. 1691

Fig. 1692

Magnesia Sectional Coverings.

Size Inches	Elbows.	Tees.	G. Valves.	Crosses.
⅛	$0 16	$0.24	$0.24	$0.30
¾	.20	.26	.26	.34
1	.20	.26	.26	.34
1¼	.20	.26	.26	.34
1½	.20	.26	.26	.34
2	.22	.29	.29	.38
2½	.25	.33	.33	.42
3	.29	.38	.38	.48
3½	.32	.42	.42	.54
4	.35	.47	.47	.60
4½	.40	.52	.52	.64
5	.46	.60	.60	.72
6	.52	.72	.72	.80
7	.66	.96	.96	.88
8	.80	1.08	1 08	.96
9	.88	1.20	1.20	1.08
10	1.00	1.40	1.40	1.20

Fig. 1694

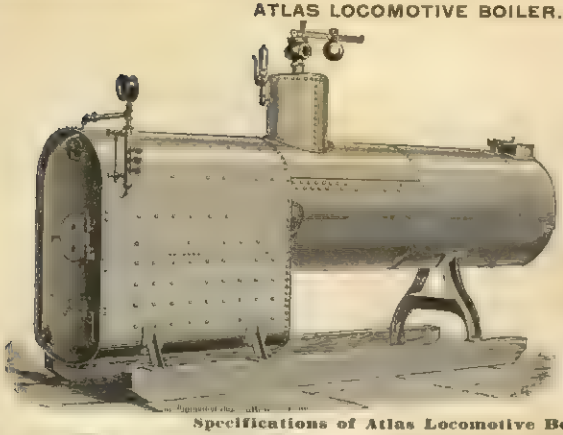
Fig. 1695

Fig. 1696

Magnabestos Sectional Coverings.

Size Inches	Elbows.	Tees.	G Valves	Crosses.
⅛	$0.15	$0.21	$0.21	$0.29
¾	.15	.21	.21	.29
1	.15	.21	.21	.29
1¼	.15	.21	.21	29
1½	.16	.22	.22	32
2	.18	.24	.24	.35
2½	.20	.27	.27	.37
3	.23	30	.30	.40
3½	.26	.35	.35	.45
4	.29	.40	.40	.50
4½	.32	.43	.43	.55
5	.35	.46	.46	60
6	.40	.50	.50	.65
7	.45	.55	.55	.71
8	.50	.65	.65	.78
9	.55	.73	.73	.85
10	.60	.80	.80	.90

ATLAS LOCOMOTIVE BOILER.



Each boiler, on skids, is furnished with dome, grate bars, safety valves, steam gauge and siphon, glass water gauge and gauge cocks, check valve, stop valve, blow-off cock, whistle, smoke stack and guy rods.

Specifications of Atlas Locomotive Boilers.

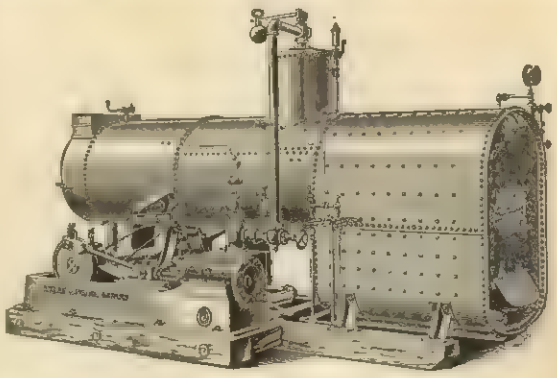
Nominal Rated H P	SHELL. Diam. In.	SHELL. Length Over All.	FIRE BOX. Length. In.	FIRE BOX. Width. In.	FIRE BOX. Height. In.	DOME. Diam.	DOME. Height.	TUBES. No. 2¼ Tubes.	TUBES. Length.	Total Heating Surface Sq. Ft.	STACK. Diam In	STACK. Length Ft	Approximate Shipping Weight. Boiler only	Approximate Shipping Weight. Fixtures.	Approximate Shipping Weight. Complete
10	28	9′ 5″	30	23	36	15	16	25	5′ 6″	127	10	15	2,518	382	2,900
15	32	11′ 0″	42	27	40	15	16	40	6′ 0″	188	12	15	3,418	582	4,000
20	34	12′ 8″	48	29	46	16	18	40	7′ 0″	251	12	20	5,080	670	5,700
25	36	14′ 0″	52	32	48	18	20	45	8′ 0″	315	14	25	5,975	825	6,800
30	40	15′ 2″	54	36	48	20	22	49	8′ 0″	376	18	30	6,497	1,203	7,700
40	42	16′ 4″	54	37	60	20	22	45	10′ 0″	510	20	40	8,540	1,360	9,900

ATLAS SIDE-CRANK ENGINES WITH LOCOMOTIVE BOILERS—"SEMI-FIXED" STYLE.

Each outfit includes: Engine with wrought-iron main shaft, outboard pillow block on adjustable sole plate, band wheel, governor, governor belt, stop valve, automatic sight-feed cylinder lubricator and connections, oil can, oil cups, wrenches and cylinder drain pipes and valve, with Locomotive Boiler, as above described, including two injectors with connections to boiler, steam pipe connecting engine and boiler, and exhaust pipe.

Engine and boiler fixed on skids, as illustrated, to form semi-fixed outfit; or, with engine detached from boiler, to form Detached Portable Style.

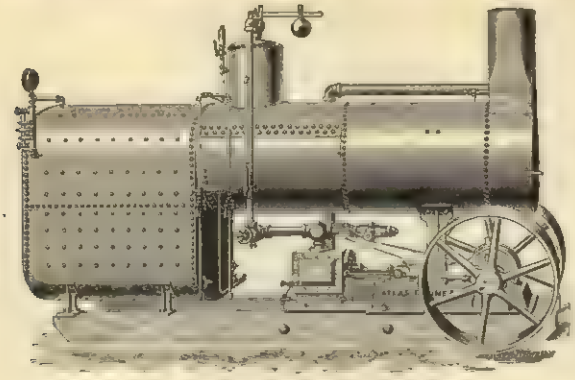
The above specifications refer to Plain Engines. We are prepared to furnish Automatic Side-crank Engines combined with same type of boilers, in same manner, if desired.



Specifications of "Semi-Fixed" and "Detached Portable" Outfits.

PLAIN SLIDE-VALVE ENGINE. Diameter Cylinder.	Stroke	Rated H P.	Standard Revs per Min.	LOCOMOTIVE BOILER. Diameter Shel.	Length Over All	Rated H P	Approximate Weight. Pounds.
7	10	10	200	28″	9′ 5″	10	4,800
8	12	15	185	32″	11′ 0″	15	6,600
9	14	20	165	34″	12′ 8″	20	9,400
10	16	25	155	36′	14′ 0″	25	11,700
11	16	30	155	40″	15′ 2″	30	13,000
12	20	40	135	42″	16′ 4″	40	17,300

SELF-CONTAINED ENGINES AND PORTABLE BOILERS.



"Self-Contained Under Outfit."

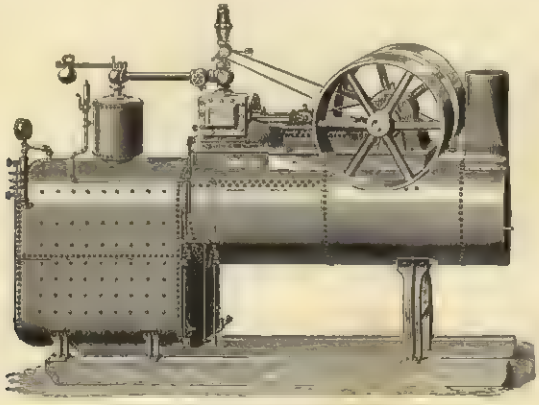
PLAIN SELF-CONTAINED ENGINE				LOCOMOTIVE BOILER			Approximate Shipping Weight. Pounds
Diameter of Cylinder Inches	Length of Stroke Inches	Nominal Rated Horse Power	Standard Revolutions Per Minute	Diameter of Shell Inches	Length Over All	Nominal Rated Horse Power	
7	10	10	200	28	9′ 5″	10	5,200
8	10	15	200	32	11′ 0″	15	6,400
9	12	20	185	34	12′ 8″	20	9,700
10	12	25	185	36	14′ 0″	25	10,900
11	14	30	170	40	15′ 2″	30	13,200
12	14	40	170	42	16′ 4″	40	15,500

Each outfit includes: Engine with wrought-iron main shaft, two band wheels, governor, governor belt, stop valve, automatic sight-feed cylinder lubricator and connections, oil can, oil cups, wrenches and cylinder drain pipes and valves.

Locomotive boiler, as above described.

Two injectors with connections to boiler, steam pipe connecting engine and boiler, and exhaust pipe.

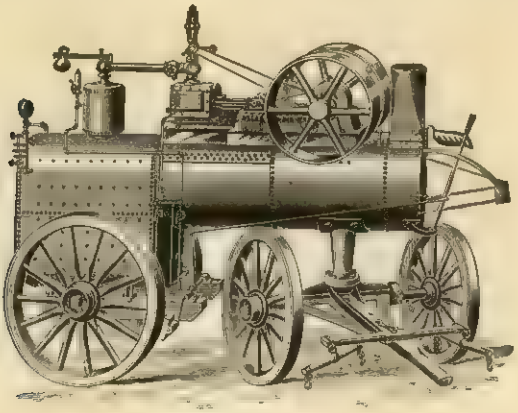
The above specifications refer to Plain Engines. We are prepared to furnish Automatic Self-Contained Engines combined with same type of boilers, in same manner, if desired.



"Self-Contained Over Outfit."

Specifications are same as above given for plain "Self-contained Under Outfits." We can furnish either style with Automatic Engines. Write for estimates.

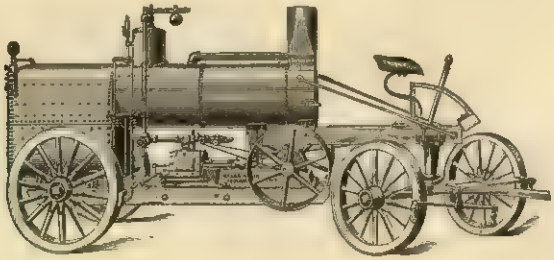
ATLAS SELF-CONTAINED MOUNTED ENGINES AND BOILERS.



"Mounted Over Outfit."

Each outfit includes: Engine with wrought-iron main shaft, two band wheels, governor, governor belt stop valve, automatic sight-feed cylinder lubricator and connections, oil can, oil cups, wrenches and cylinder drain pipes and valves. Engine mounted on locomotive boiler, on skids, with dome, grate bars, safety valve, steam gauge and siphon, glass water gauge and gauge cocks, check valve, stop valve, blow-off cock, whistle, smoke stack and guy rods.

Two injectors with connections to boiler, steam pipe connecting engine and boiler, and exhaust pipe.

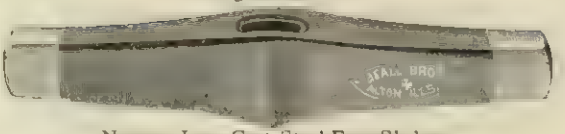


"Mounted Under Outfit."

This portable power is the most effective and substantial of any now in the market. It combines the latest type of Atlas self-contained or "inside crank" engine, which we can furnish in this style of outfit, either automatic or of plain slide-valve pattern, as shown in cut, and the Atlas standard pattern of locomotive boiler, built wholly of best flange steel, with fire box surrounded by water. The mounting is of more substantial design than used in any other portable rig yet manufactured. We furnish this style of outfit from 10 to 40 H. P. Write for quotations.

COAL MINERS' TOOLS.

Fig. 1234.



Norway Iron, Cast Steel Face Sledges.

5 to 9 pounds..... per dozen, $27 00

Fig. 1235

Solid Cast Tool Steel Sledges.

5 to 9 pounds..... per dozen, $35 00

Fig. 1236

Regular Pattern Coal Wedge.

Suitable for most all coal mined in this country.

Size of Cast Steel used..... { 1½ to 2 pounds, 1¼ x ⅝ inch; 2¼ to 3½ pounds, 1½ x 1 inch; 3⅝ to 5 pounds, 1¾ x 1 inch }

Regular Pattern Coal Wedge, 1½ to 5 pounds, per pound, 25 cents.

Fig. 1237

Missouri Pattern.

Size of Cast Steel used, 1¼ x ⅞ inch.

1½ to 2 pounds.....per pound, 25 cents

Fig. 1238

Kansas Pattern.

Size of Cast Steel used, 1⅜ x ¾ inch.

1½ to 2 pounds..... per pound, 25 cents

Fig. 1239

Indiana Pattern.

Size of Cast Steel used, 1¼ inch square.

1½ to 2 pounds.....per pound, 25 cents

Fig. 1240

Western Pattern.

Size of Cast Steel used, 1¼ x ⅞ inch.

1½ to 2¼ pounds..... per pound, 25 cents

QUEEN CITY SUPPLY CO. ORIGINAL

PUCHTA & CO. Proprs

COAL MINERS TOOLS.

Fig. 1229.

Coal Poll Pick.

Weight.	Per dozen.
2½ Pounds	$10 00
3 "	16 00
3½ "	16 00
4 "	16 00
4¼ "	16.00
4½ "	16 00

Fig. 1230.

Short Ear Mining Pick.

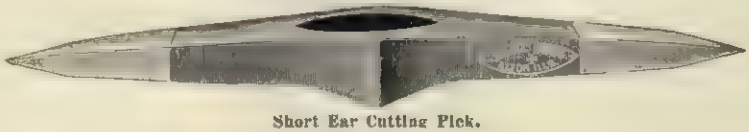
Weight.	Per dozen.	Weight.	Per dozen.
1½ Pounds	$11 50	2½ Pounds	$11 50
1¾ "	11.50	2¾ "	11 50
2 "	11 50	3 "	11 50
2¼ "	11 50		

Fig. 1231.

Long Ear Mining Pick.

Weight.	Per dozen.	Weight.	Per dozen
1½ Pounds	$12.00	2½ Pounds	$12.00
1¾ "	12.00	2¾ "	12 00
2 "	12 00	3 "	12 00
2¼ "	12 00		

Fig. 1232.



Short Ear Cutting Pick.

Weight.	Per dozen.	Weight.	Per dozen
2½ Pounds	$11.50	3¾ Pounds	$12 00
2¾ "	11 50	4 "	12 00
3 "	11 50	4¼	12 00
3¼ "	11 50	4½ "	12 00
3½ "	12 00		

Fig. 1233.

Long Ear Cutting Pick.

Weight.	Per dozen.	Weight	Per dozen
2½ Pounds	$12.00	3¾ Pounds	$13 00
2¾ "	12 00	4 "	13 00
3 "	12.00	4¼ "	3 00
3¼ "	12.00	4½ "	13.00
3½ "	13 00		

COAL MINERS' TOOLS.

Fig. 1241.

IRON BLASTING NEEDLES.

Best Norway Iron, ½ inch Taper, Highly Polished.

5 Feet Long	$21.00	per dozen.
6 "	24.00	"
7 "	27.00	"
8 "	30.00	"

STEEL BLASTING NEEDLES.

Will Not Bend. Highly Polished.

5 Feet Long	$22.00	per dozen.
6 "	25.00	"
7 "	28.00	"
8 "	31.00	"

COPPER NEEDLES.

All are Extra Hardened, and are Not Liable to Batter or Bend in Using.
Best Copper, ½ inch Taper, Highly Polished.

5 Feet Long	$30.00	per dozen.
6 "	33.00	"
7 "	36.00	"
8 "	39.00	"

BLASTING BARRELS.

We wish to call Attention to our Blasting Barrels, which are made specially for that purpose.
They are made of Spring Steel, and are not Liable to Bend or Break.

5 Feet Long	$ 9.60	per dozen.
6 "	12.96	"
7 "	15.12	"
8 "	17.28	"

☞ We can furnish the above in two styles, ¼ or ⅛ inch hole, but we *recommend* the ⅛ inch opening, as the smaller the hole the better the shot. Copper Wire Needles for the above furnished on application.

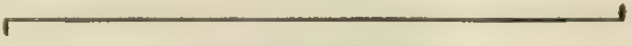
Fig. 1242.

SINGLE END SCRAPERS.

Made of ⅝ inch Round Norway Iron.

5 Feet Long	$4.80	per dozen.
6 "	5.40	"
7 "	6.00	"
8 "	7.60	"

Fig. 1243.



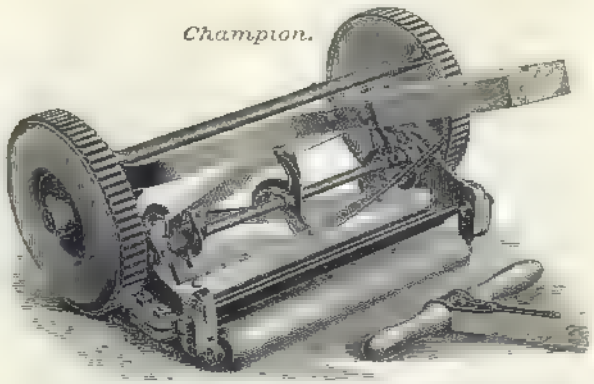
DOUBLE END SCRAPERS.

Made of ⅝ inch Round Norway Iron.

5 Feet Long	$6.00	per dozen.
6 "	6.60	"
7 "	7.20	"
8 "	7.80	"

Lawn Mowers.

Champion.



Double Drive, Rear Cut, Positive Ratchet, High Speed Reel, 8 Inch Wheels

Cut,	10	12	14	16	18	20 inch.
Each,	$12 00	15 00	17 00	19 00	21 00	23 00

In the construction of this Lawn Mower the best of material is used throughout; Crucible Steel Reel Blades, Cast Steel Cutting Bar Blade, all tempered in oil. Turned Steel Reel Shafts, Malleable Reel Arms, Steel Hand Braces. The Turned Handle attached to the Tongue with a Malleable Clip, Steel Pawls and Ratchet. The best of Paint and Varnish used in painting and ornamenting.

To obtain the greatest driving power with the least amount of draft, we adopted an eight (8) inch Traction Wheel, giving to the Reel five and one-half (6½) revolutions to one (1) of the Traction, making a higher speed Reel than any Lawn Mower now manufactured.

Double Traction Drive Rear Cut, with Shrubbery Guard and Adjustable Roller. All Bearings adjustable by Lock-screw Tension, constructed to prevent grass, etc., from clogging; thoroughly interchangeable. Each Mower passes through a rigid inspection by two experienced mechanics, before it is boxed for shipment.

ONE IN A CASE.

Champion High Wheel.

Double Drive, Rear Cut, Positive Ratchet, High Speed Reel, 10 Inch Wheels

Cut,	16	18	20	24
Each,	$26 00	28 00	30 00	34 00

In the construction of this Mower, the same mechanical lines that Rowell's Champion is built on are followed, increasing in size one-fourth throughout the Machine. The Traction Wheels is 10½ inches in Diameter, the Reel 8½ inches in Diameter. First-class material only is used in the construction of this Mower.

ONE IN A CASE.

Extra Parts for Champion and High Chief Mowers.

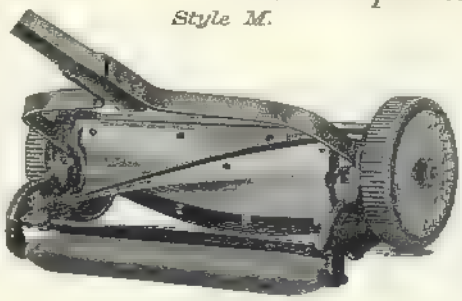
NO.	DESCRIPTION.	CHAMPION, EACH.	H. CHIEF EACH.
D W	Drive Wheel, both alike,	$0 80	$1 00
5	Pinion on Reel Shaft, both alike,	30	40
6	Hood Washer, outside Drive Wheel, both alike	10	15
A1	R. H Disk,	1 25	1 50
A2	L H Disk,	1 25	1 50
R8	R H. Inside Ratchet,	20	25
R9	L. H Inside Ratchet	20	25
X	Outside Ratchet, both alike,	15	20
4	Roller Arm, both alike,	10	15
29	Steel Pawl in the Pinion, set of 4,	15	20

Size,	10	12	14	16	18	20	24
No. 12 Champion Reel Complete,	$1 30	1 50	1 70	1 90	2 15	2 50	
No. 12 High Chief Reel Complete,				2 00	2 40	3 00	3 40
No. 19 Champion Cutting Bar,	60	75	90	1 05	1 20	1 35	
No. 19 High Chief Cutting Bar,				1 25	1 50	1 85	2 00

All parts are numbered and are made interchangeable. In ordering, be particular to mention the number stamped or cast on the part to be replaced.

Philadelphia Lawn Mowers.

Style M.



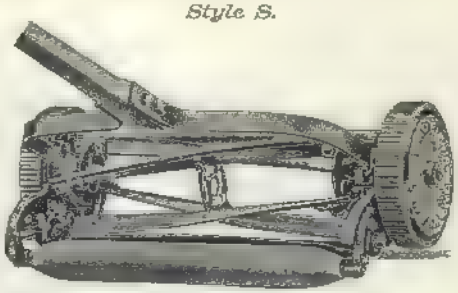
Solid Cylinder

Inches,	12	14	16	18	20
Weight, pounds,	28	36	38	44	46
Each,	$15 00	17 00	19 00	21 00	23 00

This Mower is for general purposes and very popular. It has 7 inch driving wheels, with three-blade solid cylinder, with the knives bolted on.

ONE IN A CASE.

Style S.



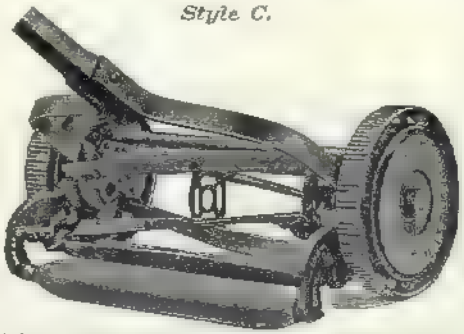
Open Cylinder.

Inches	12	14	16	18	20
Weight, pounds,	26	33	34	36	38
Each,	$15 00	17 00	19 00	21 00	23 00

This is an open cylinder four-blade Mower, with 7 inch wheel, and combines all improvements. It has a quick clip and fine cut.

ONE IN A CASE.

Style C.

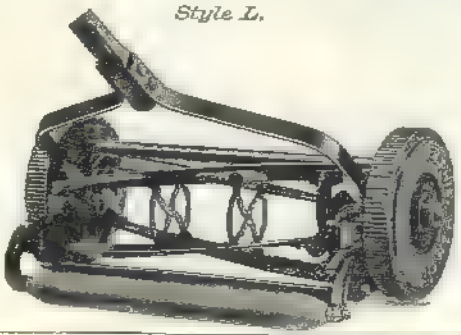


Medium High Wheel, Open Cylinder, 8¼ Inch Driving Wheels.

Inches,	14	16	18	20
Weight, pounds,	36	40	42	44
Each,	$17 00	19 00	21 00	23 00

ONE IN A CASE.

Style L.

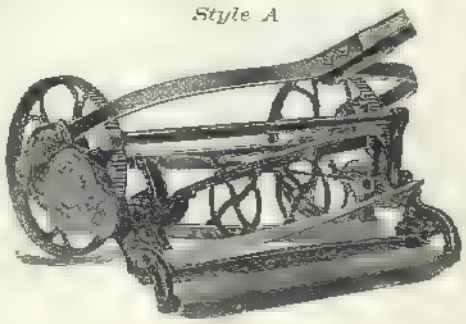


Inches,	15	17
Weight, pounds,	46	48
Each,	$22 00	25 00

This style is known as the Park Mower, and is a great favorite. With its 8½ inch driving wheel, and 6¾ inch open cylinder advantages it is perfect for this class of work.

ONE IN A CASE.

Style A



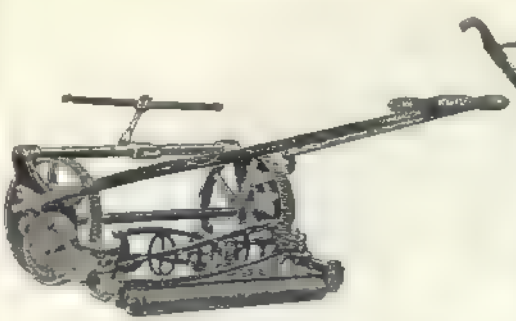
High Wheel.

Inches,	15	17	19
Weight, pounds,	40	42	44
Each,	$25 00	28 00	31 00

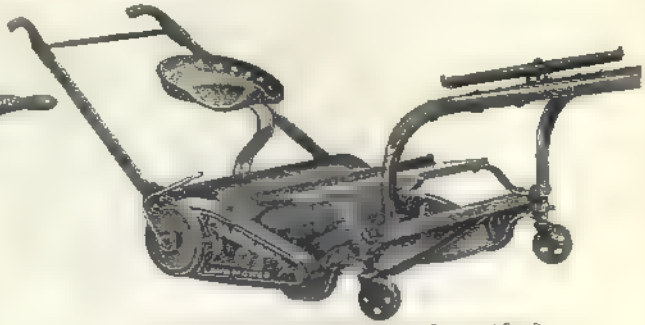
This Mower has 7 inch driving wheels, 8½ inch cylinder cutting with four knives constructed of steel throughout, is reduced in weight one half. The gearing differs from our other cut having a train of three gears instead of the usual bottom gear.

ONE IN A CASE.

Philadelphia Horse Lawn Mowers.



25-inch Pony Lawn Mower



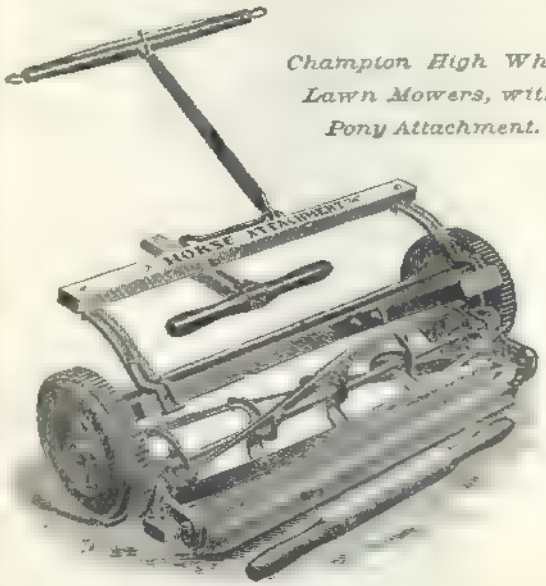
30-inch Horse Lawn Mower with Seat and Shafts

DESCRIPTION.	EACH
25 inch Pony or Two-man Lawn Mower, 11½ inch Driving Wheels, 6⅜ inch Open Cylinder, Weight 115 pounds,	$ 50 00
30 inch Horse Lawn Mower, Four knife Open or Closed Cylinder, with Draft Rod, Weight 315 pounds,	100 00
30 inch Horse Lawn Mower, Four knife Open or Closed Cylinder with Seat and Shafts, Weight 350 pounds,	120 00
36 inch Horse Lawn Mower, Open Cylinder only, with Seat and Shafts, Weight 450 pounds,	180 00

We do not keep Horse Mowers in stock, and take orders only for factory shipment. In ordering state whether open or closed cylinder is wanted.

Pony Lawn Mowers and Attachments.

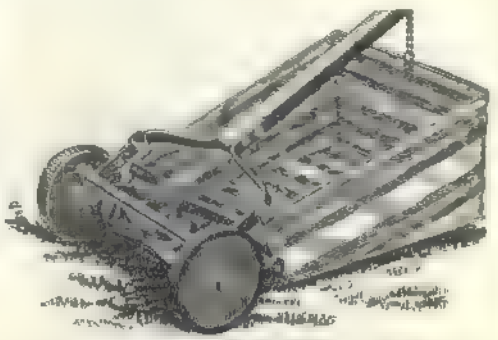
Champion High Wheel Lawn Mowers, with Pony Attachment.



DESCRIPTION.	EACH.
21 inch Mower, with Pony Attachment,	$39 00
[illegible] h Mower, with Pony Attachment.	45 00

For shipment from factory only

Bieder's Adjustable Grass Collectors.



Adjustable to any Size or Make of Mower

DESCRIPTION.	PER DOZEN.
Bieder's Adjustable Lawn Mower Attachment, Light, Durable, Strong, Attractive,	$18 00

Card, Cork Screws.

Williamson's.

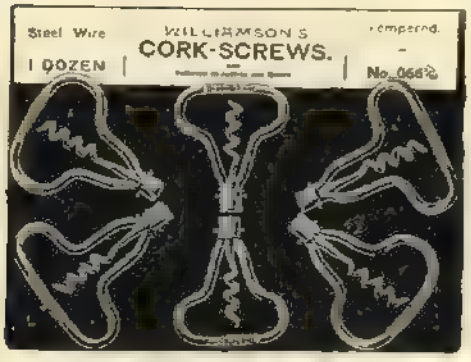
No.		Per Card
201.	Assorted, all Pocket,	$1.50

One Dozen on a Card; Three Cards in a Box.

0500.	Assorted, all Pocket,	2.00

One Dozen on a Card; Four Cards in a Box.

No. 0500.



No. 0661/2.

No.		Per Card
0661/2.	Assorted, Pocket,	$1.00

Half Dozen on a Card; Two Cards in a Box.

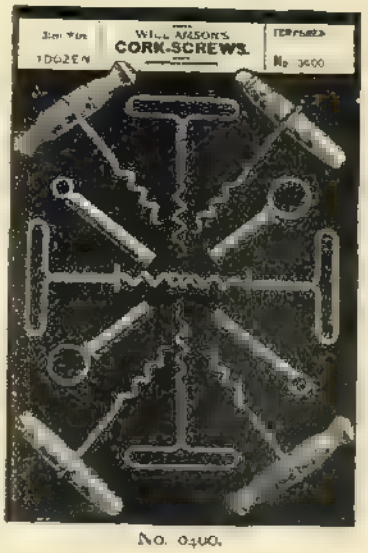
No. 0600.

No.		Per Card
0600.	Assorted, Table and Pocket,	$1.50

One Dozen on a Card. Three Cards in a Box.

0400.	Assorted, Table and Pocket,	1.50

One Dozen on a Card; Three Cards in a Box



No. 0400.

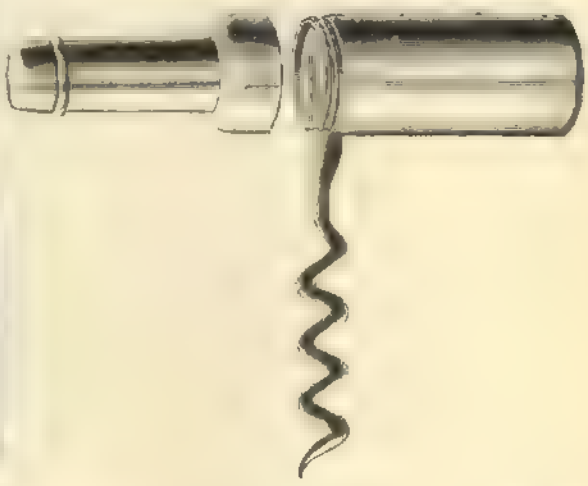
Pocket Cork Screws.

CUTS FULL SIZE

Williamson's Crucible Steel

No. 13½. Closed. No. 13½. Open.

No. 56. Closed.



No. 56. Open

No.		Per Dozen
13½	Nickel Plated, with Tube Handle,	$2.00
56	Bottle, Brass Handle, Nickel Plated,	4.00

No. 10½. Double Ring, with Case.

No. 1068. English Barrel, Ball Joint,

No.		Per Dozen
10½.	Nickel Plated,	$5.50
1068	German Silver Case, Nickel Screw,	$7.50

Patent Folding.

No. 60½.

No. 61½.

No. 62½.

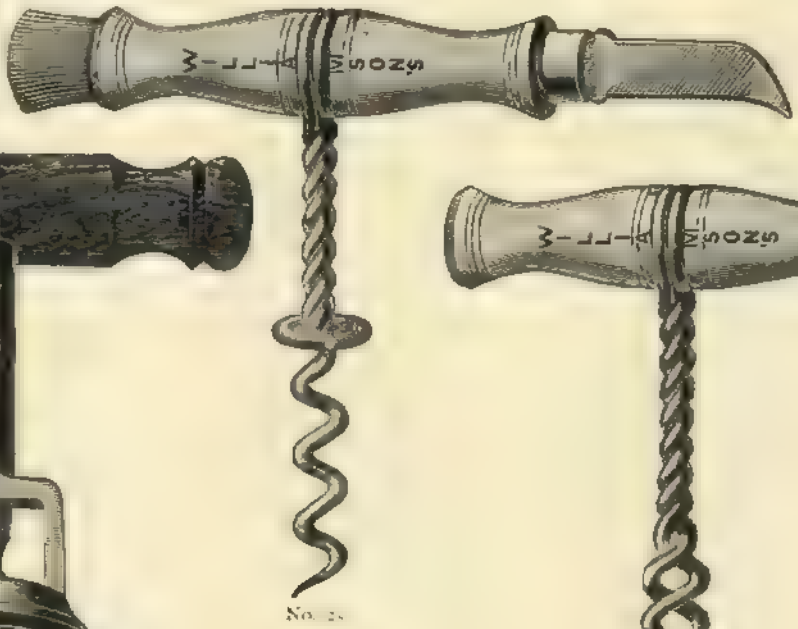
60½.	Round Wire Handles, Nickel Plated.	1.90
61½.	Round Wire Handles, Nickel Plated,	2.00
62½.	Round Wire Handles, Nickel Plated,	2.10

One Dozen in a Box

Cork Screws.

Williamson's.

S	No. 317	No. 8	Nos. 18 and 1181/2	Per Dozen
317	Tinned, Maple Handle, Bessemer Steel,			$ 5.50
8	Tinned, Maple Handle, Crucible Steel,			1.00
18	Tinned, Maple Handle, Crucible Steel,			.96
1181/2	Nickel Plated, Cherry Handle, Crucible Steel,			4.00



Nos. 443 and 6243. No. 36

36	Tinned, Maple Handle, Crucible Steel,	3.50
15	Tinned, Maple Handle, with Champagne Opener and Brush,	6.50
443	Nickel Plated, Bronze Cup, Maple Handle,	3.50
443	Nickle Plated, Nickel Cup, Rosewood Handle,	5.50

Sleigh Bells.

The Bevin Bros. Manufacturing Co.'s.

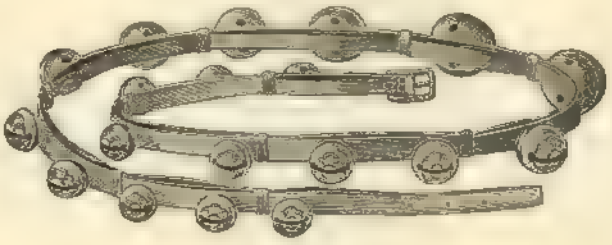
Neck Straps.

Polished Rim Bells.

Wire fastened on Heavy Russet Harness Leather, Lined with Grain Leather.

No.		Per Strap
31.	11 Polished Rim Bells, Assorted, Nos. 2 to 7,	$1.10
37.	13 Polished Rim Bells, Assorted, Nos. 2 to 8,	1.47

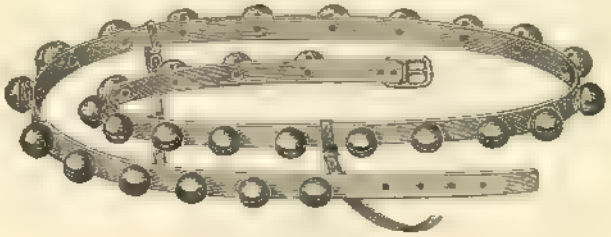
Body Straps.



Polished Rim Bells.

Wire Fastened on Heavy Russet Harness Leather, Lined with Grain Leather.

059.	19 Polished Rim Bells, Assorted,	Nos. 2 3 4 5 6 7 8 / 4 4 4 2 2 2 1	2.60
069.	23 Polished Rim Bells, Assorted,	Nos. 1 2 3 4 5 6 7 8 / 4 4 4 4 2 2 2 1	3.00



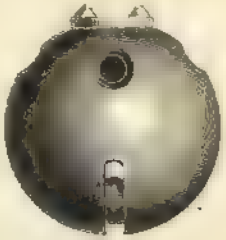
Tinned Rim Bells.

Plain Black Harness Leather, Bells Riveted to Strap.

174.	30 No. 2 Tinned Rim Bells,	2.40
177.	24 No. 3 Tinned Rim Bells,	2.40
178.	30 No. 3 Tinned Rim Bells,	2.70
180.	24 No. 4 Tinned Rim Bells,	2.70

Globe Sleigh Bells.

The Bevin Bros. Manufacturing Co.'s.



Riveted on Polished Black Harness Leather, Plain Edges.

No.		Per Strap
495.	24 No. 2 Nickel Plated Egg Shape Bells,	$4.70
496.	30 No. 2 Nickel Plated Egg Shape Bells,	5.32
500.	30 No. 3 Nickel Plated Egg Shape Bells,	5.96

Dexter Sleigh Bells.

Riveted on Polished Black Harness Leather, Plain Edges.

465.	30 No. 3 Extra Tinned Bells,	3.40

Double Throat Sleigh Bells.

Riveted on Polished Black Harness Leather, Plain Edges.

535.	30 No. 3 Extra Tinned Bells,	3.70

Sheet Metal New Band Shaft Chimes.

Made from Sheet Brass. Harmonized, Japanned Iron Strap.

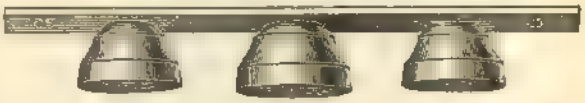
		Per Pair
69½.	Nickel Plated,	2.66

Beaded Gong Shaft Chimes.

Japanned Iron Strap.

		Per Pair.
8.	Nickel Plated Steel,	$0.83

Band Shaft Chimes.



Japanned Iron Strap.

No.		
15.	Tinned,	1.33
17.	Nickel Plated,	1.66

One Pair in a Box.

Hand Bells.

Fine Polished Bell Metal, Enameled Wood Handles.

Nos.,	0	1	2	3	4	5	6
Diameter at Mouth,	2	2⅜	2⅝	3	3⅜	3¾	4
Per Dozen,	$2.25	2.62	3.50	4.50	6.50	8.50	11.25

Nos.,	7	8	9	10	12	14
Diameter at Mouth,	4⅝	5	5⅜	6⅛	6⅞	7⅞
Per Dozen,	13.75	18.50	24.00	30.00	36.00	48.00

Nos. 0 to 5, Half Dozen, Nos. 6 and 7, Third Dozen, Nos. 8 to 14, One in a Package.

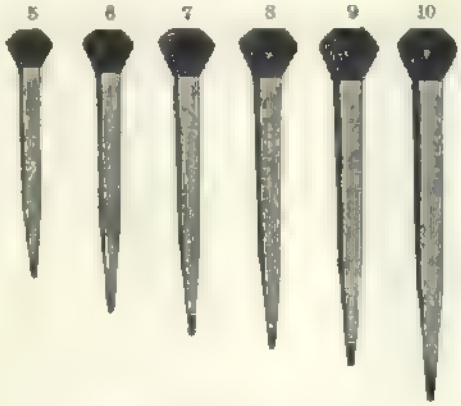
Swiss Silver Chime Bells.

Pure Bell Metal, Nickel Plated.

Nos.,	4	6	8
Diameter at Mouth,	3⅛	3¾	4¾
Per Dozen,	12.00	18.00	30.00

Horse Shoe Nails.

Perfect.



Regular Pattern, Pointed and Polished.

No.	5	6	7	8	9	10
Per Pound,	$0 22	19	17	16	15	14

TWENTY-FIVE POUNDS IN A BOX.

Northwestern.

Regular or City Patterns, Pointed and Polished.

No.	4	4½	5	6	7	8	9	10
Per Pound,	$0 50	35	28	25	23	22	21	20

TWENTY-FIVE POUNDS IN A BOX.

Star.

Regular or City Patterns, Pointed and Polished.

No.	4	5	6	7	8	9	10
Per Pound,	$0 50	26	23	21	20	19	18

TWENTY FIVE POUNDS IN A BOX.

Ausable.

Standard.

City.

Old Fashioned Hand Process.

Hot Forged and Hammer Pointed.

Standard or City Heads, Pointed and Polished

No.	4	4½	5	6	7	8	9	10
Per Pound.	$0 50	40	31	28	26	25	24	23

TWENTY FIVE POUNDS IN A BOX.

Putnam.

Regular Pattern, Pointed and Polished.

No.	5	6	7	8	9	10
Per Pound,	$0 26	23	21	20	19	18

TWENTY FIVE POUNDS IN A BOX.

Horse and Mule Shoes.

Horse Shoes.

Light and Medium.

DESCRIPTION	PER KEG
Perkins' Light,	$8 00
Burden's Light and Medium,	8 00

Burden's and Perkins' Light Horse Shoes.

Fore, One Size in a Keg, Nos. 0, 1, 2, 3, 4, 5 and 6.
Hind, One Size in a Keg, Nos. 0, 1, 2, 3, 4, 5 and 6.
Fore and Hind, One Size in a Keg, Nos. 2, 3, 4, 5 and 6.
Fore and Hind, Assorted, Three Sizes in a Keg, Nos. 1, 2 and 3.
Nos. 2, 3 and 4. Nos. 3, 4 and 5.

Burden's Medium Horse Shoes.

Fore, One Size in a Keg, Nos. 1, 2, 3, 4, 5 and 6.
Hind, One Size in a Keg, Nos. 1, 2, 3, 4, 5 and 6.
Fore and Hind, One Size in a Keg, Nos. 1, 2, 3, 4, 5 and 6.
Fore and Hind, Assorted, Three Sizes in a Keg, Nos. 1, 2 and 3.
Nos. 2, 3 and 4. Nos. 3, 4 and 5.

ONE HUNDRED POUNDS IN A KEG.

Mule Shoes.

DESCRIPTION	PER KEG
Perkins,	$9 00
Burden's,	9 00

Nos. 1, 2, 3, 4, 5 and 6 Separate, not Assorted.

ONE HUNDRED POUNDS IN A KEG.

Snow or Trotting Shoes.

DESCRIPTION.	PER KEG.
Perkins' Fore, Nos. 0, 1, 2, 3 and 4,	$8 00
Perkins' Hind, Nos 0, 1, 2, 3 and 4,	8 00

ONE HUNDRED POUNDS IN A KEG. SEPARATE OR ASSORTED

Cowboy Horse Shoes.

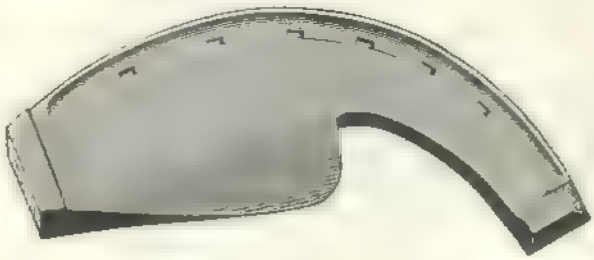
DESCRIPTION	PER KEG.
Perkins' Nos 00, 0, 1 and 2,	$15 00

ONE HUNDRED POUNDS OF EACH SIZE IN A KEG.

Ox Shoes.

Malleable Iron, with Steel Calks.

DESCRIPTION.	PER POUND
Mount Carmel Ox Shoes, Nos. 1, 2, 3 and 4,	$0 15



DESCRIPTION.	PER POUND.
Steel Ox Shoes, Nos. 1, 2, 3 and 4,	$0 16½

ONE HUNDRED POUNDS IN A BOX.

Sweet's Toe Calks.

Kind,	Bessemer	American	Swedes.
Per Pound,	$0 09	0 11	0 13

TWENTY-FIVE POUNDS IN A BOX.

Neck Strap Sleigh Bells.

Tinned Bells

Wired on Russet Leather Strap. Lining Strap Fastened with Loops.

No.	200	204	211		232
Size of Bells	1 to 1⅜	1⅛ to 1⅜	1⅜ to 1½	1⅝ to 1⅞	1¼ to 2
No. of Bells,	9	11	11	13	13
Per Strap,	$0 84	1 00	1 10	1 47	2 00

X Plated Polar Bells.

Riveted on Russet Leather Strap

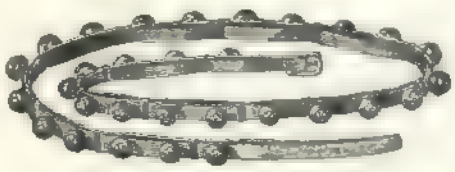
No.	368	371	372	373	375	376	377
Size of Bells	1	1⅛	1⅛	1⅛	1¼	1¼	1½
No. of Bells	18	12	18	24	12	18	24
Per Strap,	$0 75	70	80	1 00	1 25	1 60	1 80

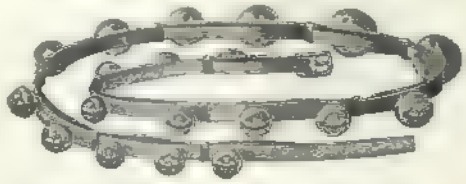
Oroide Metal Polar Bells.

Riveted on Russet Leather Strap.

No.	408	412	413	416	417
Size of Bells	1	1⅛	1⅛	1¼	1¼
No. of Bells	18	18	24	18	24
Per Strap,	$1 20	1 40	1 70	2 05	2 50

Body Strap Sleigh Bells.





Tinned Polar Bells.

Riveted on Black Leather Strap.

No.	30	36	37	38	70	71
Size of Bells,	1⅛	1⅛	1¼	1¼	1¼	1¼
No. of Bells,	20	24	30	30	24	30
Per Strap,	$1 50	1 75	2 05	2 35	2 35	2 75

Oroide Metal Polar Bells.

Riveted on Black Leather Strap.

No.	42	43	44
Size of Bells,	1⅛	1¼	1¼
No. of Bells,	24	30	36
Per Strap,	$2 10	2 85	2 70

X Plated Polar Bells.

Riveted on Black Leather Strap, Buckles and Billets Stitched on.

No.	47	48
Size of Bells,	1¼	1¼
No. of Bells,	30	36
Per Strap,	$4 20	4 50

X Plated Polar Bells.

Riveted on Russet Leather Strap, Black Enameled Leather Bound, Buckles and Billets Stitched.

No.	85
Size of Bells,	1¼
No. of Bells,	42
Per Strap,	$7 30

Tinned Bells.

Wired on Russet Leather Strap, Lining Strap fastened with Loops.

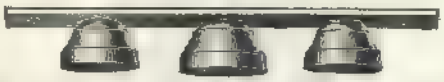
No.	0070
Size of Bells	1⅛ to 2½
No. of Bells,	23
Per Strap,	$4 00

Sleigh Bells.

Shaft Chimes.

Sheet Metal Bells

NO.	DESCRIPTION	PER PAIR
32	Nickel Plated Bells, Iron Strap,	$0 60
325	Oroide Bells, Iron Strap,	85



NO.	DESCRIPTION.	PER PAIR.
15	X Plated Bells, Iron Strap,	$0 85
29	Oroide Bells, Iron Strap,	$1 00

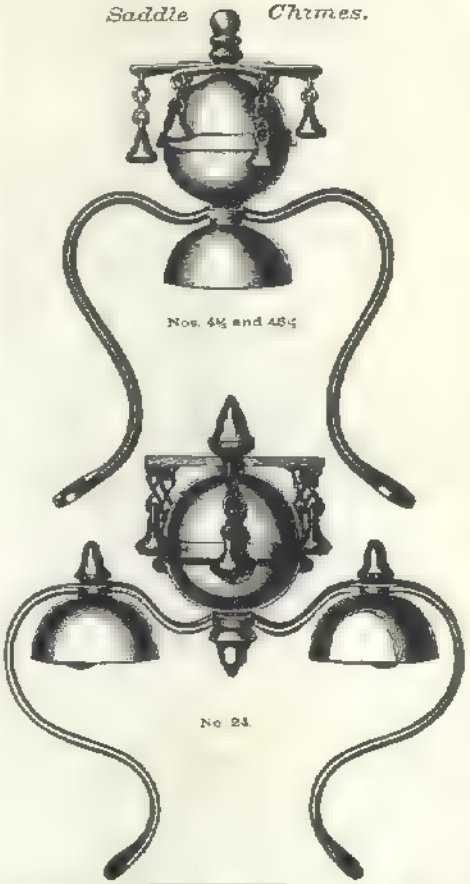
NO.	DESCRIPTION.	PER PAIR
33½	Nickel Plated Bells, Nickel Plated Strap,	$1 35
33+½	Oroide Bells, Nickel Plated Strap,	1 50

NO.	DESCRIPTION.	PER PAIR
28	Gold Plated Bells, Fancy Brass Strap,	$1 20

NO.	DESCRIPTION	PER PAIR.
84½	Nickel Plated Bells, Iron Strap,	$1 30
84½	Oroide Bells, Iron Strap,	1 50

NO.	DESCRIPTION.	PER PAIR
022	Nickel Plated Bells, Iron Strap,	$1 50
0224	Oroide Bells, Iron Strap,	1 75

Saddle Chimes.



Nos. 45½ and 48½

No. 24.

NO.	DESCRIPTION.	EACH.
48½	Nickel Plated,	$2 00
45½	Oroide,	2 00
24	Gold Plated,	3 00

Round Loose Bells.

Nos.	1	2	3	4	5	6
Diameter	1	1¼	1⅜	1½	1⅝	1⅞
Per Dozen	$0 38	52	68	82	98	1 10
Nos.	7	8	9	10	11	
Diameter.	1½	1⅝	1¾	2	2¼	
Per Dozen.	1 35	1 67	1 90	2 25	2 60	

Bells.

Cow Bell

Sheep Bell

Cow Bells.

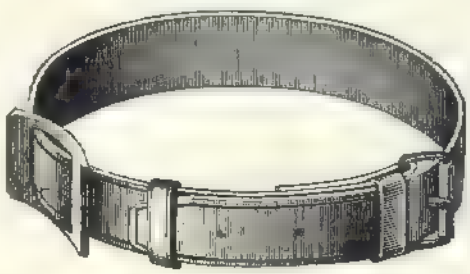
No.	7	6	5	4	3	2	1	0
Height,	2½	2¾	3¼	4	4½	5½	6	6½ in
Width,	2¼	3	3	3½	4¼	4½	5	5½ in
Per Dozen,	$2 50	3 00	4 00	5 00	6 00	8 00	10 00	12 00

The measure for Height is without Loop.

Strapped Sheep Bells.

No	1	2
Per Dozen,	$3 00	3 50

Cow Bell Straps.



Width,	1¼	1¾ inch.
Per Dozen,	$3 75	4 25

Horse Car Bells.

Unpolished Bell Metal, Tongue Cast In.

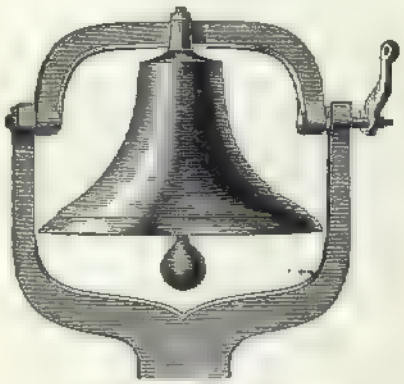
No.	4	7
Diameter of Mouth,	3¼	4 inch.
Per Dozen,	$3 00	4 00

House Bells.

Polished Bell Metal

No	1	2	3	4	5	6
Diam. of Mouth,	2	2½	2¾	2¾	3	3½ in
Per Dozen,	$1 00	1 25	1 75	2 25	2 75	3 25

Farm Bells.



Steel Composition Bronzed.

No	1	2	3	4
Diameter.	15	17	19	21 inch
Weight,	40	50	75	100 lbs.
Each,	$4 00	5 00	7 50	10 00

No. 4 is supplied with Double Hangers.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SPRING DIVIDERS.

Fig. 593.

No. 83 Yankee Spring Dividers, with Thumb Attachment.

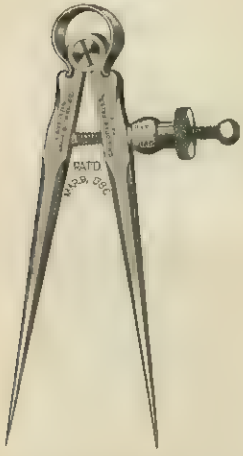
2½	inch, with thumb attachment	each, $0.80
3	" " "	" .85
4	" " "	" .90
5	" " "	" .95
6	" " "	" 1.00
8	" " "	" 1.25

Fig. 594.

No. 84 Yankee Spring Dividers, without Thumb Attachment.

2½	inch	each, $0.65
3	"	" .70
4	"	" .75
5	"	" .80
6	"	" .85
8	"	" 1.00

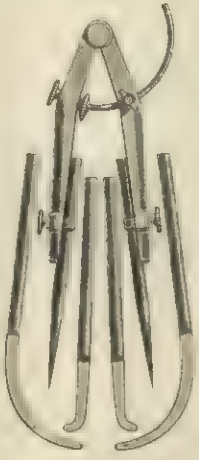
Fig. 595



No. 66 Ideal Divider.
WITHOUT THUMB ATTACHMENT.

3	inch	$1.00
4	"	1.25
5	"	1.25
6	"	1.50

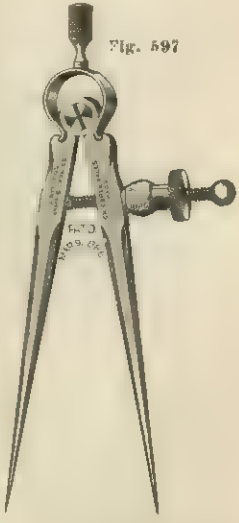
Fig. 596



No. 85 Improved Extension Divider.

7	inch, with divider legs only	$1.25
9	" " " "	1 50
7	" complete	2.25
9	" "	2 50

Fig. 597



No. 67 Ideal Divider,
WITH THUMB ATTACHMENT.

3	inch	$1.15
4	"	1.40
5	"	1.50
6	"	1.75

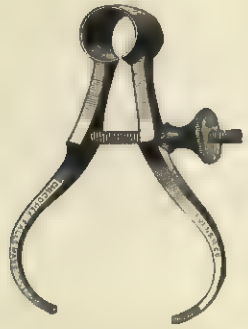
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUMP CO. Proprs

CALIPERS.

OUTSIDE AND INSIDE.

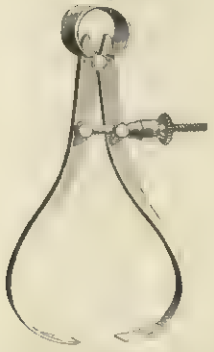
Fig. 588.



No. 47 Spring Calipers.

2 inch	$1.00
2½ "	1.00
3 "	1.00
4 "	1.25
5 "	1.25
6 "	1.50

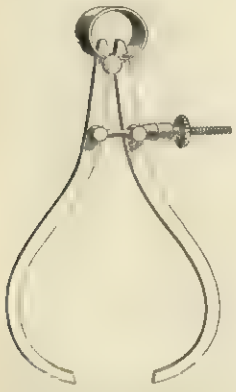
Fig. 589.



No. 80 Yankee Thread Calipers.

3 inch, with solid nut	$0.75
4 " " " "	.90
5 " " " "	1.00
With spring nut	1.05
" " "	1.25

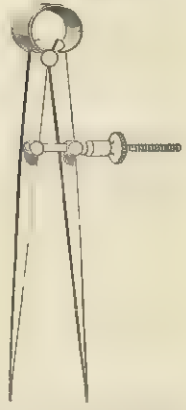
Fig. 590.



No. 79 Yankee Calipers.

2½ inch, with solid nut, each	$0.65
3 " " " " "	.70
4 " " " " "	.75
5 " " " " "	.80
6 " " " " "	.85
8 " " " " "	1.00

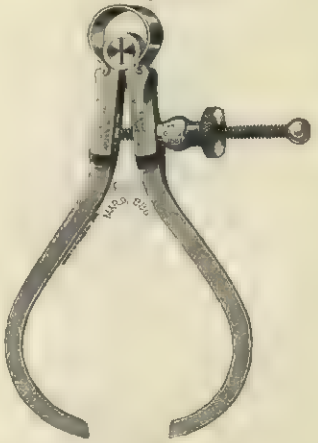
Fig. 591.



No. 78 Yankee Calipers.

4 inch, with spring nut, each	$1.00
5 " " " " "	1.05
6 " " " " "	1.10
8 " " " " "	1 25

Fig. 592.



No. 63 Ideal Calipers.

2½ inch	$1.00
3 "	1.00
4 "	1.25
5 "	1.25
6 "	1 50

QUEEN CITY SUPPLY CO CINCINNATI, O.

CALIPERS.

Outside and Inside.

Fig. 582

No. 56 E Firm Joint.

3 inch	$0 35	6 inch	$0 65
4 "	.45	8 "	.75
5 "	.55	10 "	.85
12 inch	$1 00		

Fig. 583

No. 56 A Firm Joint.

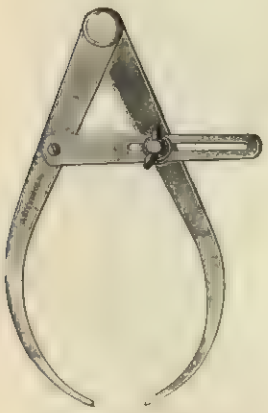
3 inch	$0.35	6 inch	$0.65
4 "	.45	8 "	.75
5 "	.55	10 "	.85
12 inch	$1 00		

Fig. 584

No. 56 C Firm Joint.

3 inch	$0.35	6 inch	$0.65
4 "	.45	8 "	.75
5 "	.55	10 "	.85
12 inch	$1.00		

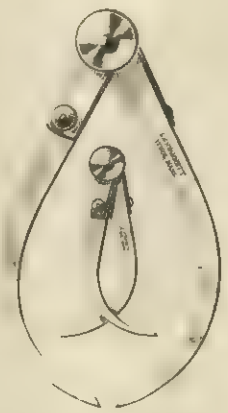
Fig. 585



No. 56 B Firm Joint, with Wing.

8 inch	$1 00	14 inch	$1 50
10 "	1 10	16 "	1.75
12 "	1 25	18 "	2 10
20 inch	$2 50		

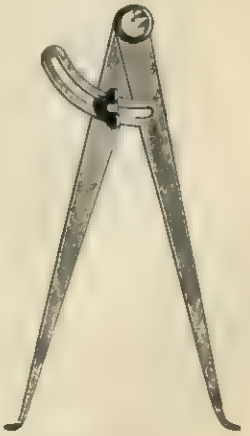
Fig. 586



No. 38 Lock Joint.

4 inch	$0 90	14 inch	$2 00
6 "	1.00	16 "	2.25
8 "	1.25	18 "	2 50
10 "	1 50	20 "	2.75
12 "	1.75	24 "	3 50

Fig. 587



No. 56 D Firm Joint, with Wing.

8 inch	$1.00	14 inch	$1.50
10 "	1.10	16 "	1.75
12 "	1.25	18 "	2 10
20 inch	$2.50		

Toy Banks.

CUTS ⅔ SIZE

H. L. Judd & Co.'s.

No. 3306. 4 x 2 x 3 inches, Maroon Bronze, ... Per $2.45

Quarter Dozen in a Box.

3234. 4¼ x 4¾ x 3⅝ inches, Dark Antique Bronze, ... 7.20

Sixth Dozen in a Box.

Toy Banks.

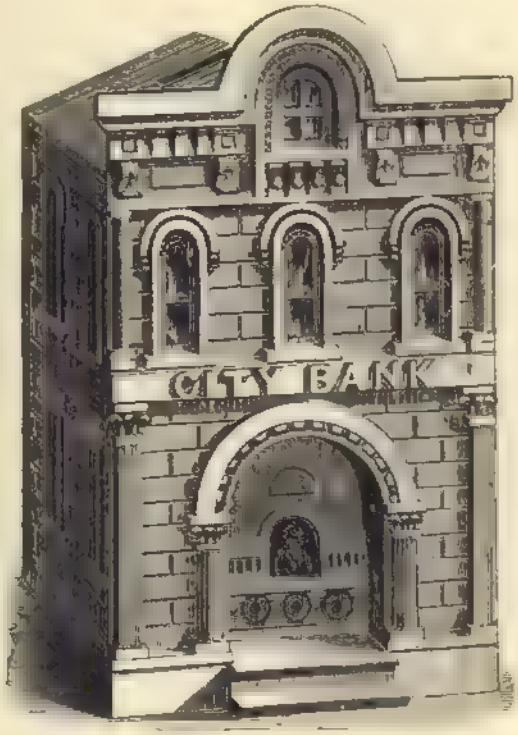
CUTS ⅔ SIZE

H. L. Judd & Co.'s

No. — Per Dozen

3244. 2 x 2 x 2 inches, Dark Antique Bronze, ... $1.70

Half Dozen in a Box



3204. 5 x 2 x 2 inches, Dark Antique Bronze, ... 3.80

Quarter Dozen in a Box.

Toy Banks.

Japanned.

House.

Gothic.

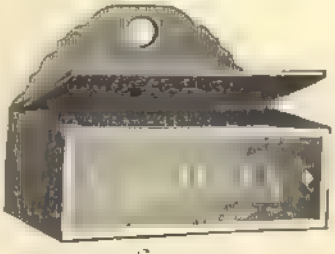
	Per Dozen.		Per Dozen
House Banks, Assorted Colors,	$0.50	Gothic Banks, Assorted Colors,	$0.50

One Dozen in a Package.

Match Safes.

Japanned.

Twin.



Square.

Twin Match Safes, Assorted Colors,	.75	Square Match Safes, Assorted Colors,	.85
		Round Match Safes, Large Size,	1.00

One Dozen in a Package.

Pocket Match Safes.

No. 10.

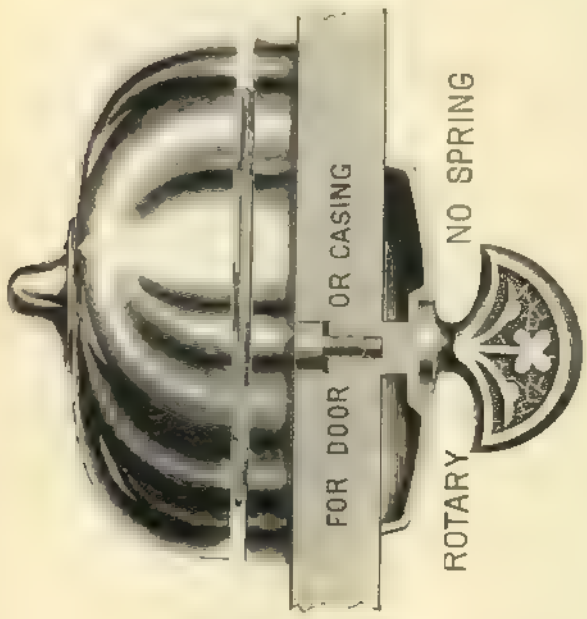
No. 47.

No.		No.	
10. Nickel Plated,	1.50	47. Nickel Plated. Leatherette Sides,	3.35

One Dozen in a Box.

Door Bells.

New "Departure."



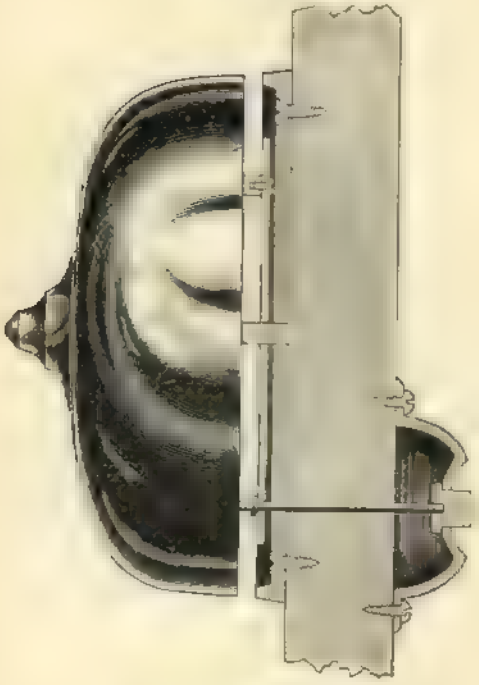
No. 101. 3½ inch.

"Rotary."

Bronze Metal Turn.

Electrical Results, Require no Winding.

No.		Per Dozen
91.	3 inch, Nickel Plated Bell.	$17.50
101.	3½ inch, Nickel Plated Bell, .	20.00



No. 220. 3½ inch.

Push Button.

Bronze Metal Rose, No. 3 Finish.

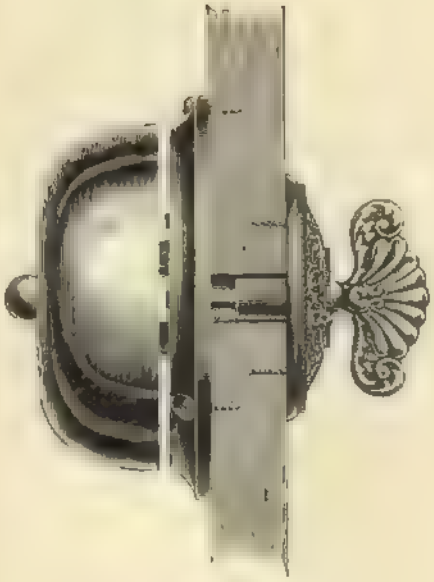
For Door or Casing.

220.	3¼ inch, Nickel Plated Bell, .	21.00
230.	4 inch, Nickel Plated Bell, . .	30.00
240.	5 inch, Nickel Plated Bell, . .	36.00

One in a Box.

Door Bells.

CUTS ½ SIZE



No. 100.

"Home" Rotary.

Bronze Metal Turn.

Electric Results, Require no Winding.

No.		Per Dozen
100.	4 inch Nickel Plated Bell, ...	$32.00

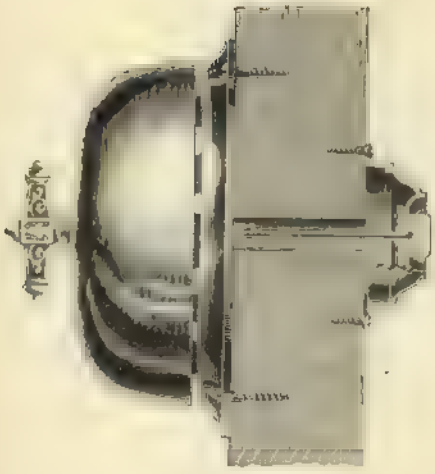
One in a Box.

"Home" Push Button.

No. 756.

400 Rings for each Winding.

No Battery Required.



No. 0236.

0236.	4 inch Bronze Plated Bell, No. 756 Push Button, No. 3 Finish, ...	44.50

One in a Box.

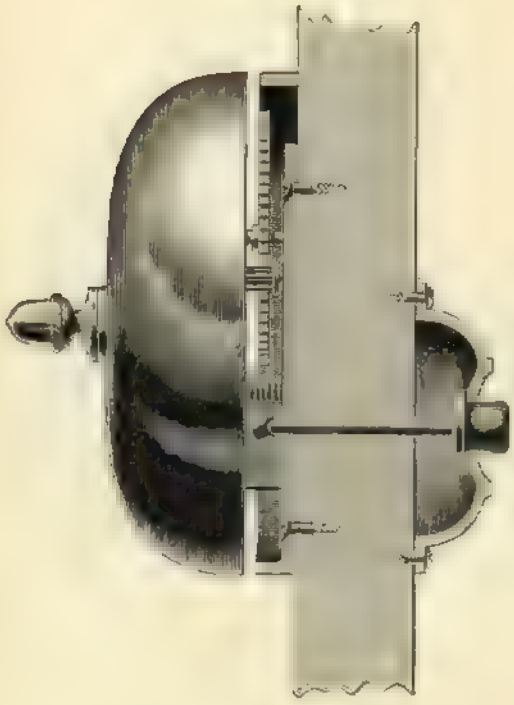
Door Bells.

CUTS ¾ SIZE

The Multi-Stroke.

Push Button.

Bronze Metal Rose, No. 3 Finish.



No. B–2. 4 inch.

No.		Per Dozen
B–2.	3½ inch, Nickel Plated, . .	$21.00
B–2.	4 inch, Nickel Plated, . . .	32.00

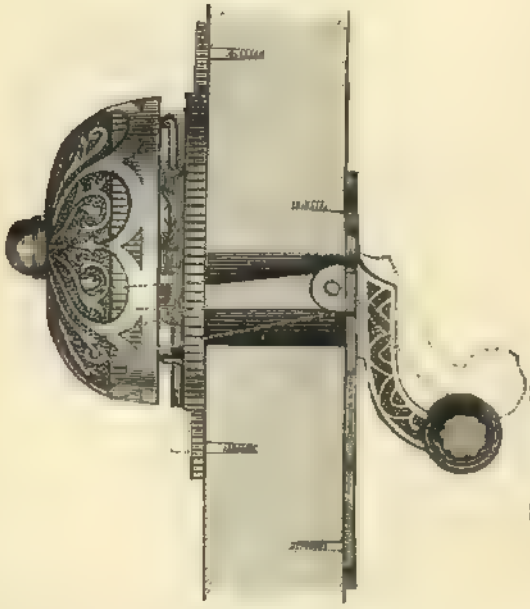
One in a Box.

It Rings Both Ways, Requires no Winding, is Always Ready and Reliable.

CUTS ½ SIZE

Improved Lever.

Kahala Bronze Lever.



No. 8032.

8032.	3½ inch, Kahala Bronze, with No. 8130 Lever, ...	10.00
8042.	5 inch, Kahala Bronze, with No. 8130 Lever, ...	11.60

One in a Box.

Cross-Cut Saws.

Atkins' Silver Steel Diamond.

Extra Thin Back, Graduated from 14 to 18 Gauge, Complete with Handles and Raker Gauge.

Feet.	5	5½	6	6½	7
Each,	$5 60	6 40	7 00	7 60	8 20

Atkins' Patent Concave Tooth Dexter.

Extra Thin Back, Graduated from 14 to 18 Gauge, without Handles.

Feet.	5	5½	6	6½	7
Each,	$4 00	4 40	4 80	5 20	5 60

Atkins' Special Steel Diamond.

Extra Thin Back Graduated from 14 to 18 Gauge, without Handles.

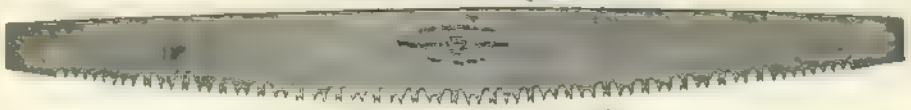
Feet.	5	5½	6	6½	7
Each,	$2 90	3 06	3 36	3 64	3 92

Atkins' Tuttle or Champion, with Diamond Point.

Extra Thin Back, Graduated from 14 to 18 Gauge, without Handles.

Feet.	5	5½	6	6½	7
Each,	$2 90	3 19	3 48	3 77	4 06

Disston's Champion.



Thin and Extra Thin Back, without Handles

Feet.	4	4½	5	5½	6	6½	7
Extra Thin Back 14 to 18 Gauge, each,	$2 32	2 61	2 90	3 19	3 48	3 77	4 06
Thin Back, 14 to 16 Gauge, each,		2 43	2 70	2 97	3 24		

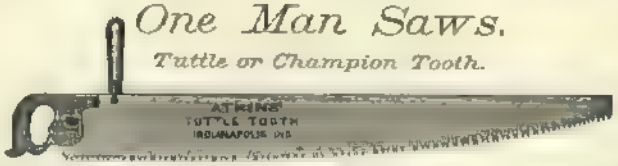
Wheeler, Madden & Clemson's Champion.

Extra Thin Back, without Handles.

Feet.	4	5	5½	6	6½	7
Each,	$2 61	2 90	3 19	3 48	3 77	4 06

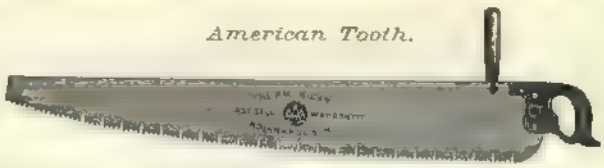
One Man Saws.

Tuttle or Champion Tooth.



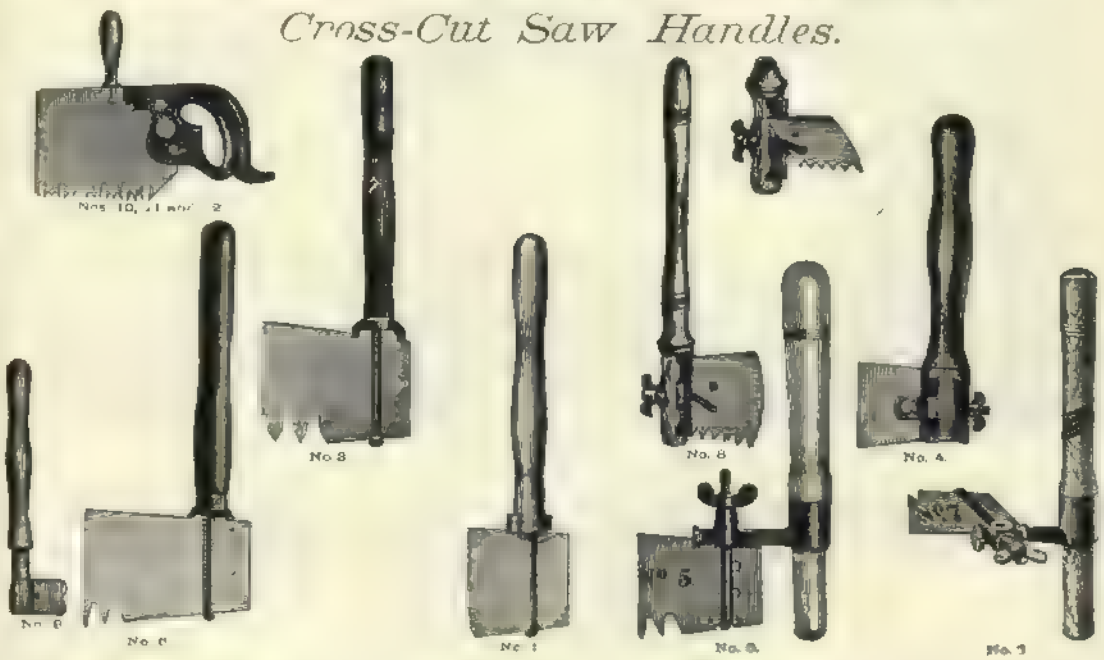
Feet	3	3½	4	4½	5
Atkins', Each	$2 [illegible]	2 [illegible]	3 [illegible]	3 35	3 70
Disston's, Each	2 [illegible]	2 [illegible]	3 [illegible]	3 35	3 70

American Tooth.



Feet	3	3½	4	4½	5
Atkins', Each,	$2 55	2 75	3 25	3 65	4 10
Disston's, Each,	2 55	2 75	3 25	3 65	4 10

Cross-Cut Saw Handles.



NO.	DESCRIPTION	PER DOZ.
10	One Man, Cherry Handles Screws for Disston or Atkins Saws,	$5 50
11	One Man Cherry, no Screws, for W M. & C's Saws,	5 50
12	One Man, Supplementary,	3 50
9	Common, Hickory, per pair	12

NO	DESCRIPTION	PER PAIR.
6	Atkins', Malleable Loop,	$0 27
3	Atkins', Heavy Malleable Loop,	40
1	Atkins', Extra Heavy Ferrule,	40
8	Champion, Reversible,	20
4	Disston's, Climax,	45
5	W M & C's Extension,	55
7	W M & C's Extension, Reversible	80

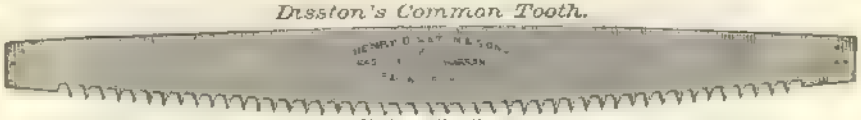
Cross-Cut Saws.

Hollow Back Champion.

Without Handles

Feet,	5	5½	6	6½
Each,	$1 80	1 98	2 16	2 34

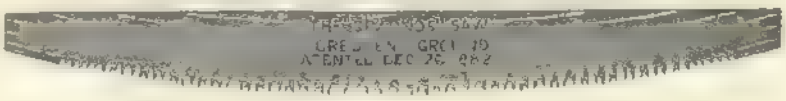
Disston's Common Tooth.



Without Handles.

Feet		½	½	5	5½	6
Each,		$2 [illegible]	2 43	2 [illegible]	2 [illegible]	3 24

"Simond's" Patent Crescent Ground



Without Handles

Feet,	4½	5	5½	6	6½	7	7½
Each,	$2 90	3 50	4 10	4 80	5 50	6 30	7 10

Canadian Razor Steel Racer

Elliptic Ground, Secret Temper, Thin Back, Graduated from 12 to 17 Gauge, without Handles

Feet,	5½	6	6½	7	7½
Each	$5 15	5 72	7 28	7 84	8 40

H. S. B. & Co's Special Steel Skookum.

Extra Quality Perforated Lance Tooth, Thin Back, Graduated from 12 to 17 Gauge, with [illegible] Handles

Feet,	5½	6	6½	7	7½	8
Each,	$4 69	5 04	5 46	5 85	6 30	6 72

H. S. B. & Co's Pacific Coast Tattle or Champion.

Extra Cast Steel, Thin Back, Graduated from 14 to 16 Gauge without Handles.

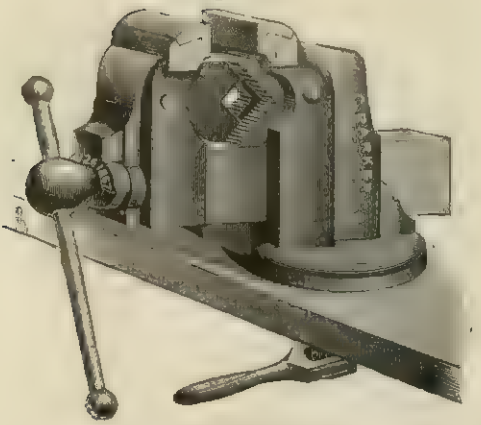
Feet	5½	6	6½	7	7½	8
Each,	$3 19	3 48	3 77	4 06	4 35	4 64

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PIPE VISES.

PARKER'S

Fig. 1293

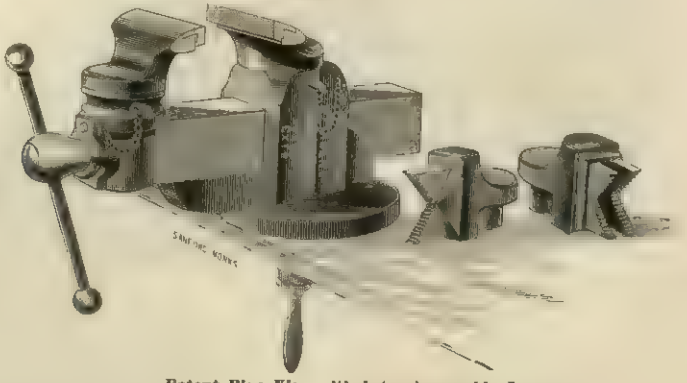


Patent Combination Pipe Vise.

No. 87. Round and Pipers' Jaws; weight, 41 pounds . . . . . each, $16 00
For holding 2 inch pipe and under.

No. 88. Round and Pipers' Jaws; weight, 59 pounds . . . . . each, $20.00
For holding 3 inch pipe and under.

Fig. 1294



Patent Pipe Vise with Interchangeable Jaws.

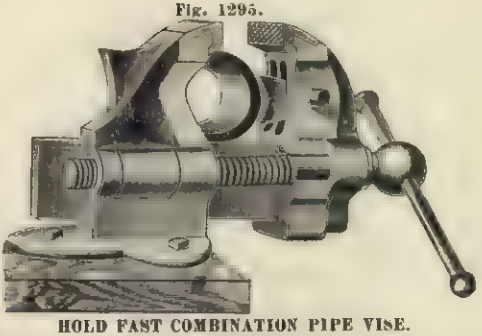
No. 81. Round Jaws, both Jaws Swivel; weight. 60 lbs. . . . . each, $12 50
No. 82. Pipers' Jaws, weight, 63 lbs. . . . . " 12.50
No. 86 Round and Pipers' Jaws, weight, 76 lbs . . . . . " 14.75
For holding 3 inch pipe and under.

No. 83. Round, Pipers' and Coach Makers' Jaws; weight, 94 lbs . . . . each, $16 00

PIPE VISES.

Parker's.

Fig. 1295.

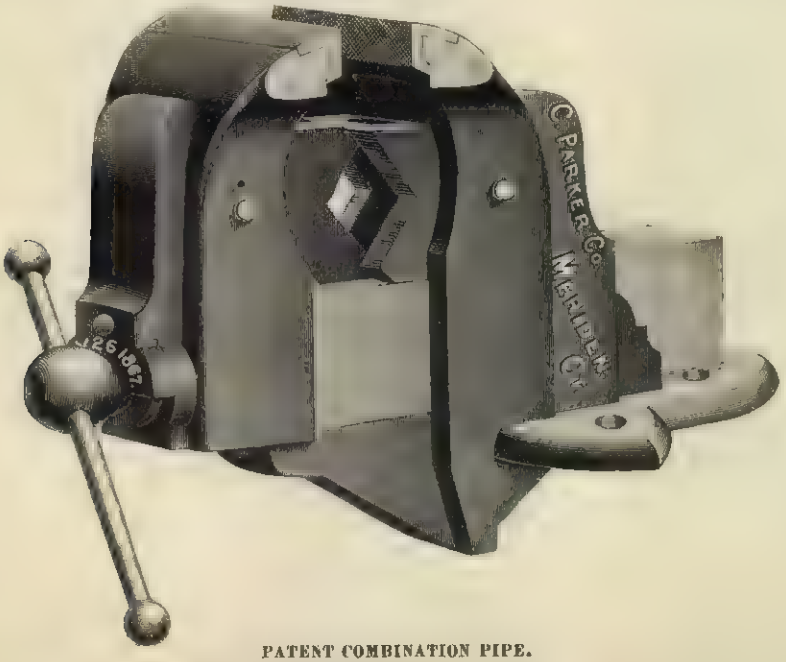


HOLD FAST COMBINATION PIPE VISE.

The Slides and Jaws of these Vises are made of the best quality of Steel, and every part is carefully constructed. They are light and very strong and a first class vise for general work.

No. 870, Takes Pipe, ⅛ to 2 inches ..... each, $8.50 | No. 880, Takes Pipe ⅛ to 3 inches ..... each, $11.00

Fig. 1296.



PATENT COMBINATION PIPE.

No. 88½, Round and Pipers' Jaws. Weight, 94 lbs.; for holding 4 inch pipe and under ..... each, $28.00

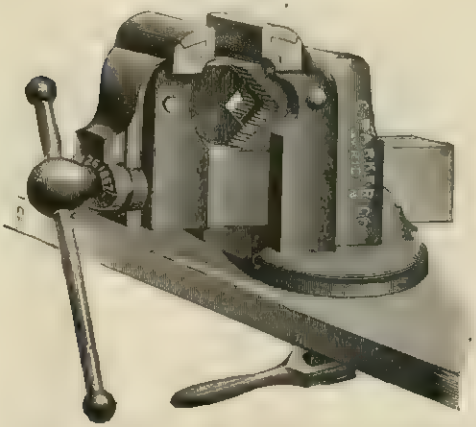
No. 89 Round and Pipers' Jaws. Weight, 141 lbs.; for holding 6 inch pipe and under 35.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PIPE VISES.

"PARKER'S." Without Patent Improvements.

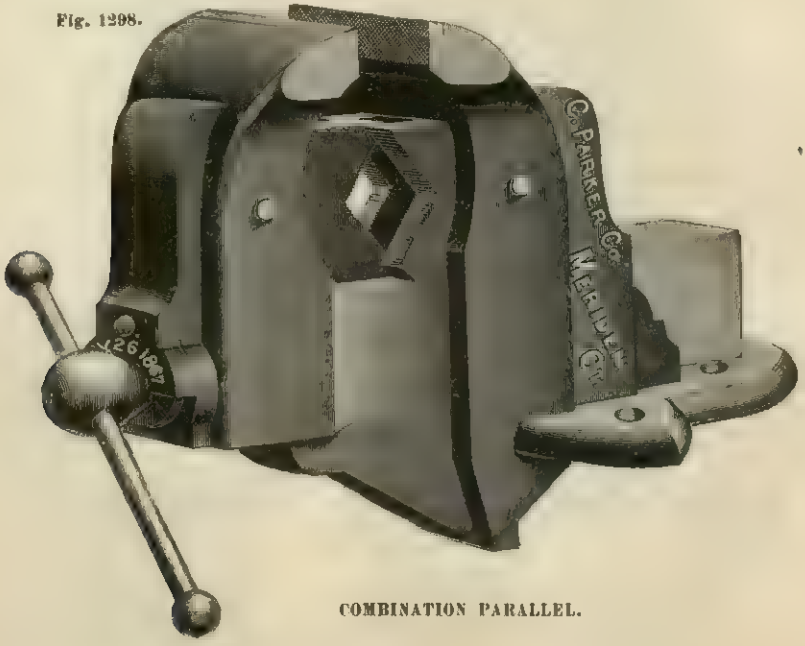
Fig. 1297.



COMBINATION SWIVEL.

No. 187. Round and Pipers' Jaws, weight, 41 pounds; for holding 2 inch pipe and under. . . each, $16.00
No 188 " " " " " 59 " " " 3 " " " " . . " 20.00

Fig. 1298.



COMBINATION PARALLEL.

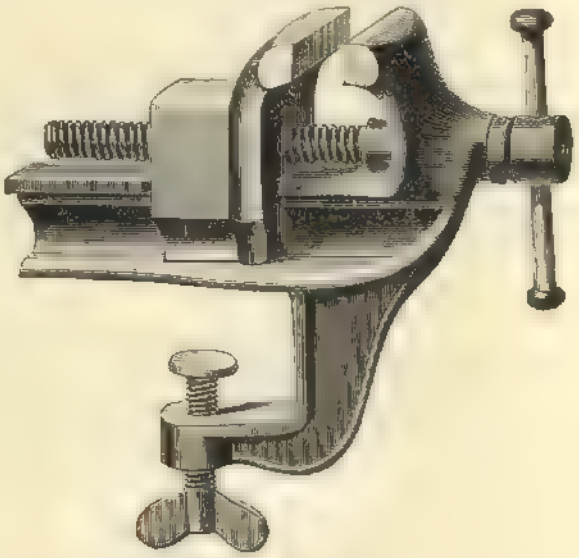
No. 188½. Round and Pipers' Jaws, weight, 94 pounds; for holding 4 inch pipe and under . . each, $28 00
No. 189. " " " " " 141 " " " 6 " " " " .. " 35 00

Vises.

Hand.

No		Per Dozen
140.	4½ inch, Wrought, Steel Face,	$6.00

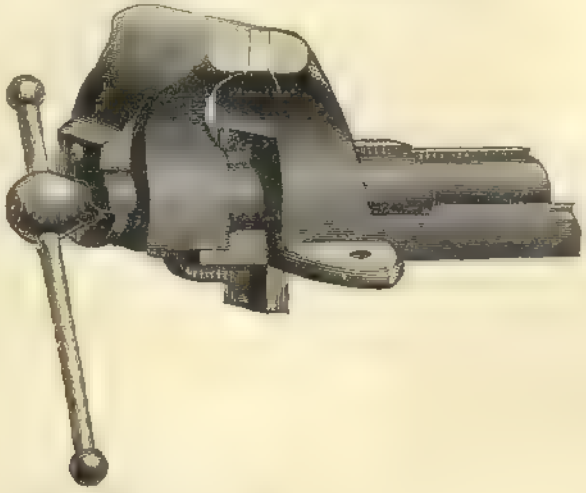
Universal Bench.



Half Size Cut of No. 2.

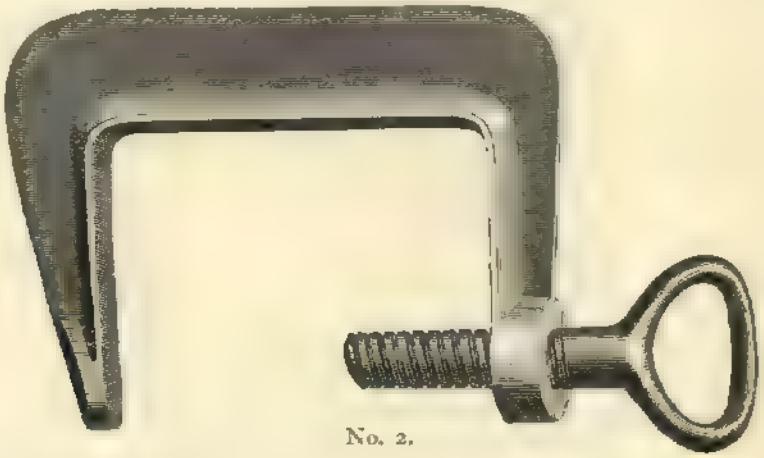
1.	P. S. & W.'s, 1½ inch Jaw, Weight, 1½ lbs.,	5.00
2.	P. S. & W.'s, 2 inch, Jaw, Weight, 2½ lbs.,	6.50

Parker's Oval Slide Bench.



		Each
31.	3 inch Jaws, Oval Slide, Weight, 13 lbs.,	3.00
33.	3½ inch Jaws, Oval Slide, Weight, 22 lbs.,	4.75
34.	4 inch Jaws, Oval Slide, Weight, 28 lbs.,	6.50

Cabinet Clamps.



No. 2.

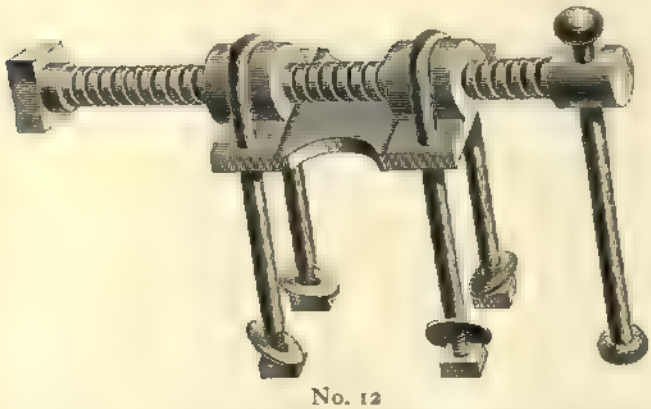
No.		Per Dozen
1.	Cabinet or Quilt Frame, Opens 2¼ inches,	$1.35
2.	Cabinet or Quilt Frame, Opens 2⅜ inches, Heavy,	1.55
3.	Cabinet, Opens 4 inches, Heavy,	2.65

Carriage Makers Clamps.

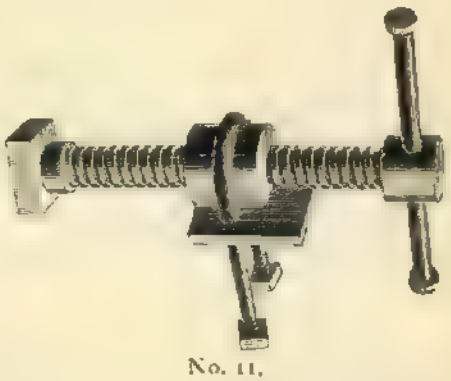
The "Star" Malleable Frame, Solid Steel Screw, Swivel Head.

Inches open,	2½	3	4	5	6	8	10
Per Dozen,	$2.00	3.00	4.20	5.00	6.50	9.00	10.00

Iron Clamp Heads.



No. 12

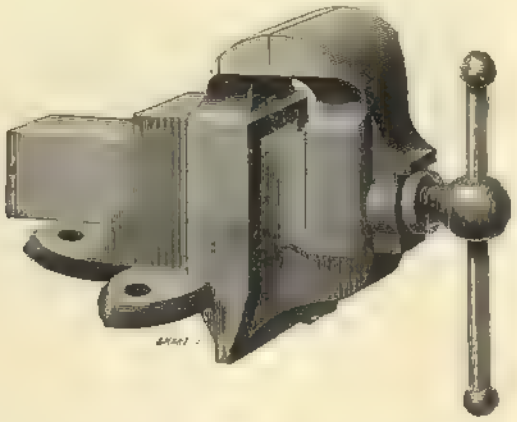


No. 11.

11.	1 inch, Wrought Iron Screw, Double Thread, Iron Handle,	24.50
12.	1⅛ inch Wrought Iron Screw, Double Thread, Iron Handle,	38.00

Vises.

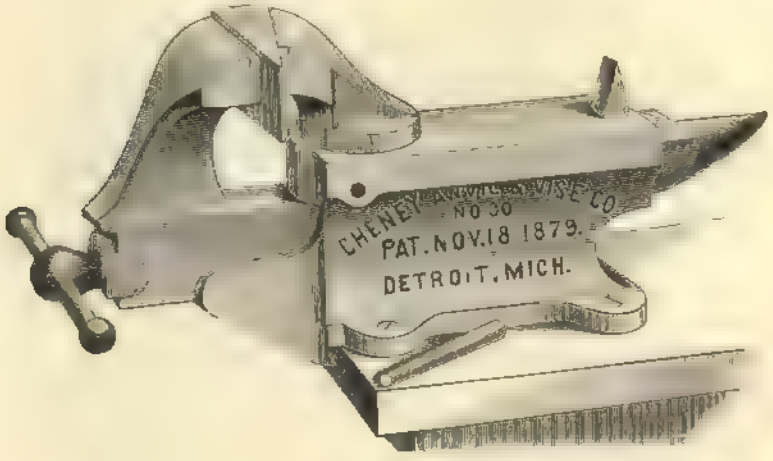
Parker's Patent Parallel.



No.		Each
1.	3⅝ inch, Round Jaws, Double Strength, Weight, 34 lbs , .	$7.00
2.	4¼ inch, Round Jaws, Double Strength, Weight, 43 lbs., ...	9.00

Combined Anvil and Vise.

Cheney's.

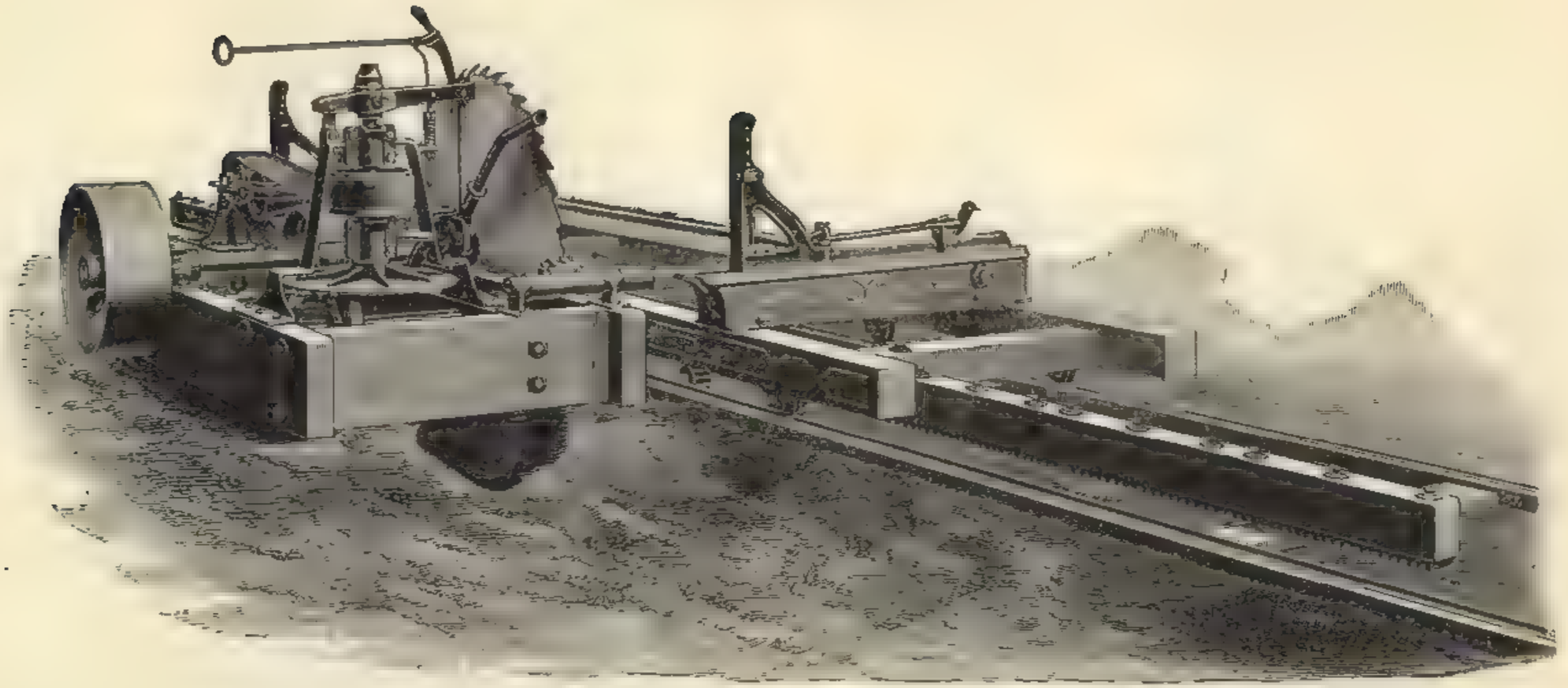


Chill-Hardened Anvil, Steel-Faced Vice, with Adjustable Jaws.

20.	Face of Anvil, 6½ x 3 inches; Jaws, 3½ inches; Opens, 4 inches; Weight, 25 lbs.,	$4.50
30.	Face of Anvil, 8 x 3½ inches; Jaws, 4 inches; Opens, 5 inches; Weight, 35 lbs.,	5.50
40.	Face of Anvil, 8½ x 4 inches; Jaws, 4½ inches; Opens 6 inches; Weight, 45 lbs..	6.50

PONY F SAW MILL.

Variable Friction Feed.



SINGLE "F" MILL, with 50-inch Saw, $400.00.
SINGLE "F" MILL, with 52-inch Saw, $410.00.
SINGLE "F" MILL, with 54-inch Saw, $420.00.
SINGLE "F" MILL, with 56-inch Saw, $440.00.

PONY "F" SAW MILL.—SINGLE AND DOUBLE.

The Husk, or Frame, is 7 feet 10 inches long by 3 feet 6 inches wide, made of seasoned timber, 11¼ inches by 3¾ inches, gained, double tenoned, and held firmly together by rods and nuts instead of joint bolts.

The Mandrel is steel, 2 11-16 inches diameter, wrought collar and nut. Saw bearing standard, 2 inches diameter, ⅝ inch lug pins 3 inches from center to center. The mandrel boxes are of sufficient length, lined with good babbitt metal, are adjustable and pivoted thereby relieving the mandrel of all liability to bind or heat. The main belt pulley is 22 inches diameter by 8½ inches face. This size can be changed if desired. All pulleys on this mill are turned and perfectly balanced.

The Saw Guide.—We furnish our patent adjustable saw guide, by which, with perfect safety, the sawyer can change the lead while the saw is in motion, by turning a hand-wheel located 12 inches from the saw.

The Lumber Rollers are 3 inches diameter with wrought iron shaft. They revolve easily, and avoid all liability to drag or slip the log on the head blocks, as is the case where stationary stands are used. The rear roll is provided with wedge wheel, 9 inches in diameter, which turns freely on its bearing.

Variable, Friction Feed and Gig. This device enables the operator to vary the feed from 0 to 6 inches per revolution of the saw, and return the carriage at the rate of 10 inches per revolution of the saw, if desired. These speeds, or any intermediate speed, are controlled by one lever, as shown in the cut. For shifting the paper friction on its shaft, to or from the center of the horizontal iron disc, the lever is moved right or left, and to engage the disc and friction, the lever is pressed downward. The disc is supported by the cross bar and spring when the carriage is not in motion. With right hand mill, when feeding or sawing, the friction is under the left side of the disc, and under the right side when gigging or backing the carriage, and vice versa with left hand mill.

The feed belt is single leather, 3 inches wide and is kept in proper tension by tightening the bolt connecting the idler frame to the bracket at the back of the husk. To keep the feed belt on the center of the idler pulleys, the shaft of the rear idler is provided with adjusting screws. The front idler is controlled by changing the idler frame with the adjustable braces.

The gearing used in this feed are 5 inches and 20 inches diameter by 2¾ inches face, insuring great power over the carriage. In addition to the variable features of this feed rig, large advantage is gained over the cone feed in the rapidity with which the carriage can be run back to the skid-way and when loaded, again brought to the saw on the fast speed, then the feed can be reduced to accommodate the power and depth of cut. Should the slab be heavy at one end of the log, and light at the other, the feed can be changed to suit without stopping, by moving the friction to or from the center of the disc. Much time is saved in handling the carriage, and the mill is capable of cutting 33⅓ per cent. more lumber than can be cut with cone feed mill of same dimensions.

The Top Saw Frame, made entirely of iron, is substantial and capable of heavy work. The top saw mandrel is steel, 1 11-16 inches diameter, and runs in three babbitted boxes cast solid with the arch and cannot get out of line. Saw bearing is standard, 2 inches diameter, 5-8 inches lug pins 3 inches from center to center. The arch is supported by two conveniently located hand wheels and elevating screws, by which the upper saw is adjusted. The saw is provided with a movable guide, not shown in the illustration. The top saw belt tightener and frame swings on one of the top saw frame rods, and when not in use is held away from the belt by a convenient spring catch. Tension of the belt is regulated by sliding weight attached to tightener frame lever. Top rig can be added to single mill, at any time, making double mill.

The Carriage. Our standard is 18 feet long, 3 feet and 11 inches wide, timbers 5½ inches x 5 inches. Cross ties 4½ inches x 5½ inches by 3 feet, tenoned and rodded to the side timbers. The rack beam is 8½ x 9½ inches x 26 feet long, firmly bolted to the cross ties. The head end of the rack beam is head by strong wrought iron brace. The rack iron is secured to the rack beam with bolts and nuts, instead of spikes or screws, as in many other low priced mills. The carriage is supported by substantial wheels and chairs. The wheel bearings are tapered, which prevents any side motion and insures a straight line. The guide wheels are grooved to fit wrought iron A track and are placed on saw side of carriage. Wheels on other side of carriage are flat. The carriage is made in two sections, coupled in the center, and can be increased to any desired length with an intermediate section 6 feet long or over, at reasonable cost. With each standard mill, we furnish 50 feet each flat and A track iron drilled, and screws to fasten down.

Head Blocks are of the rack and pinion pattern, opening 36 inches from saw to knee. Pinions are made of best cast steel. By using the sett lever rod, the sawyer can do his own setting. The sett rig ratchet is machine cut and will set accurately from 1-16 inch to any desired thickness. The sett rod is 1 1-16 inches diameter, 16 feet long, keyseated entire length, permitting the head blocks to be placed close together, if necessary. Each block is provided with common dog, steel pointed, of improved pattern. The knees are standard drilled for patent dogs.

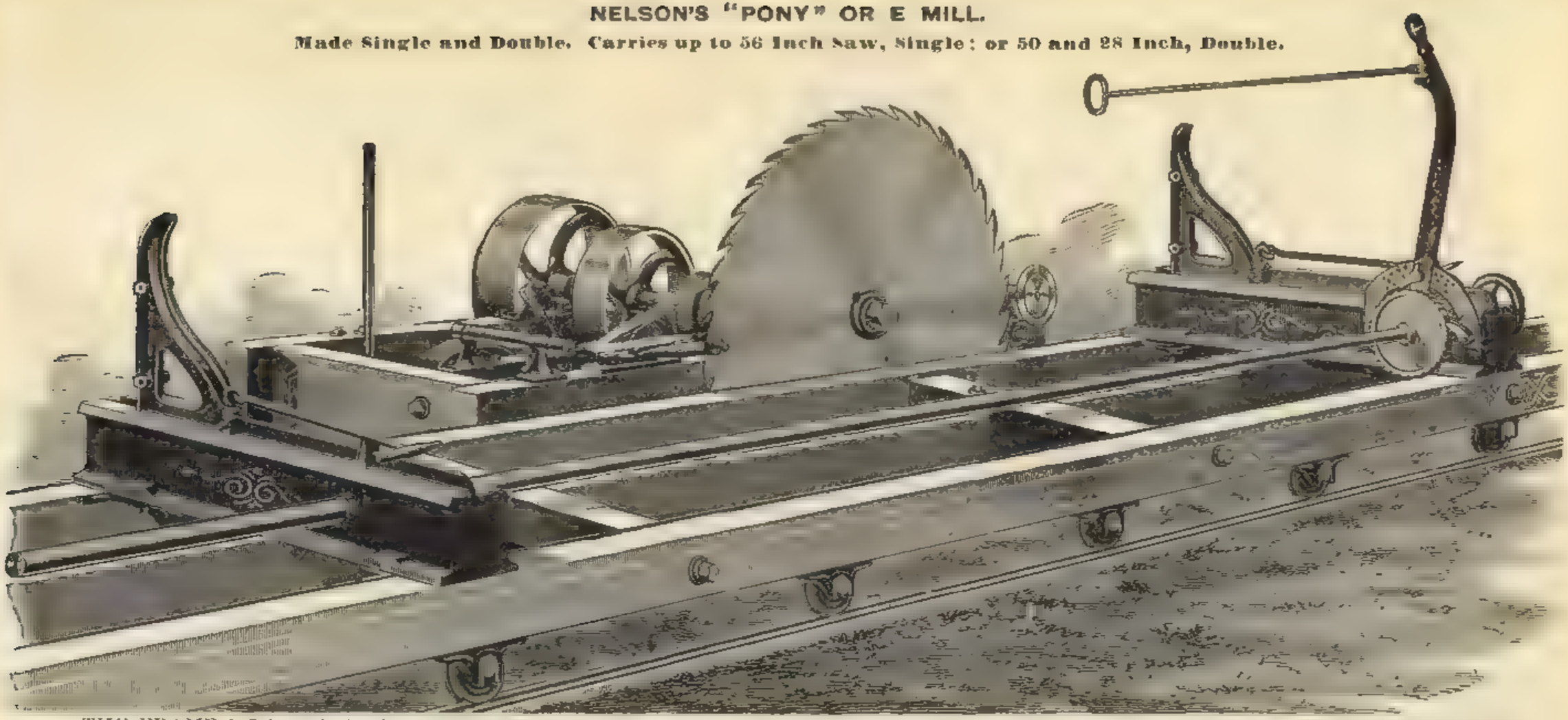
Repairs. All iron parts are numbered, and made to gauges or templets. By giving number of castings, duplicates may be obtained without delay.

Tools and Fittings. With each mill is furnished two cant hooks, one crow bar, one oil can, one monkey wrench, one mandrel nut wrench, one saw swage, one belt punch, inside belts and lacings.

These Mills are made by experienced workmen, from selected material, are very neat in design and nicely painted. They are built expressly for loading in box car thereby reducing freight charges. When ordering a mill, be particular to state whether mill is RIGHT or LEFT hand. Three men with 10 or 15 horse power engine can saw 3 to 8 thousand feet of inch lumber per day of 10 hours. Larger engine will increase the output.

NELSON'S "PONY" OR E MILL.

Made Single and Double. Carries up to 56 Inch Saw, Single; or 50 and 28 Inch, Double.



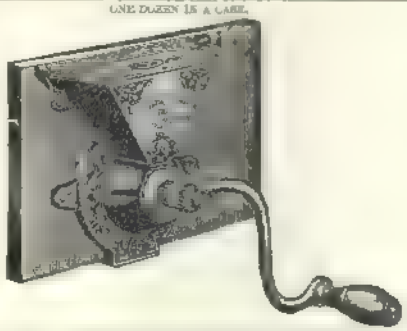
THE FRAME is 7 feet 6 inches long, by 3 feet 6 inches wide, made of yellow pine 11½ x 3½ inches, firmly joined and *rodded together*. THE CARRIAGE is 18 feet long, 3 feet 11 inches wide, timbers 5½ x 5 inches. The rack beam, 4 x 6 inches, is 24 feet long, is firmly bolted to the cross-ties of carriage. The rack is fastened to the beam with bolts and nuts, not with spikes or lag screws, as is usually done in low priced mills. THE MANDREL is 2¾ inch diameter, of best steel, having welded collars, steel tug pins and wrought iron nut. It runs in adjustable and pivoted boxes, lined with best babbitt, and is free from liability to bind and heat. HEAD BLOCKS are of the Rack and Pinion pattern, opening 36 inches from saw to knee. They are arranged for the sawyer to do his own setting. The set rig ratchet is machine cut, and will set accurately from 1-16 to 2½ inches. LUMBER ROLLERS are wrought-iron, made to revolve, avoiding any drag and liability to slip the log on the head blocks. THE SAW GUIDE is adjustable by simply turning the hand-wheel, no wrench being required. FRICTION FEED For feeding and backing carriage, patent paper friction wheels are used. When worn they can be replaced at a comparatively small cost, it not being necessary to send flanges to the factory. Owing to the arrangement of the frictions the backing speed is more than usually rapid, and increases the capacity of the mill. With each mill is furnished 2 cant hooks, 1 crow bar, 1 oil can, 1 monkey wrench, 1 nut wrench, 1 saw swage, 1 belt punch, friction feed belt, 50 feet of flat and 50 feet of "V" track iron. Double mill 50 and 28 inch saws. Single mills—50, 52, 54 or 56 inch saw, according to size of mill. The single mill is the same in size and construction as the double mill, with top rig omitted. The top rig can be added at any time, making a double mill.

Single Mill, with 50 inch saw	$250 00	Double Mill, with 50 and 28-inch saws	$350 00
" " " 52-inch "	260 00	" " " 52 and 28-inch "	360 00

Side Coffee Mills.

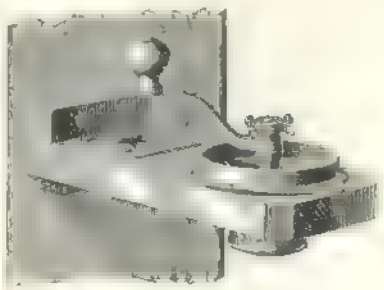
NO.	DESCRIPTION.	PER DOZ.
185	Wilson Improved, Wood Back, - -	$6 00

ONE DOZEN IN A CASE.



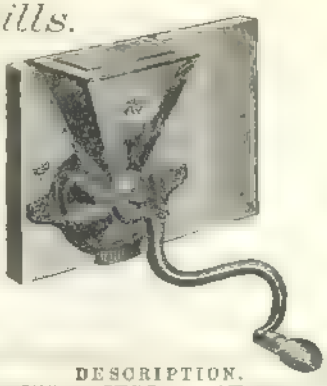
NO.	DESCRIPTION.	PER DOZ.
350	National Mill, Bronzed Wood Back, Small	$8 00
330	" Medium	9 00

HALF DOZEN IN A CASE.



NO.	DESCRIPTION.	PER DOZEN
	Lone Star, Side Mill, with Hinge, to Fold up Agent for U. S.	$6 00

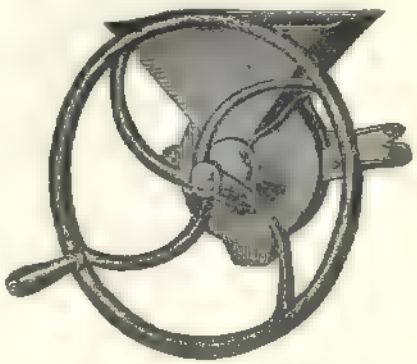
HALF DOZEN IN A CASE.



NO.	DESCRIPTION.	PER DOZ.
50	Eagle Side Mill, Wood Back, Small, -	$ 7 50
60	" " " " " Medium,	8 00
70	" " " " " Large, -	10 00
80	" " " " " Extra Large,	16 00
100	California Side Mill, Large Size, -	25 00

NO.	DESCRIPTION	PER DOZ.
450	National Side Mill, Arabian, Small	$10 50

HALF DOZEN IN A CASE.



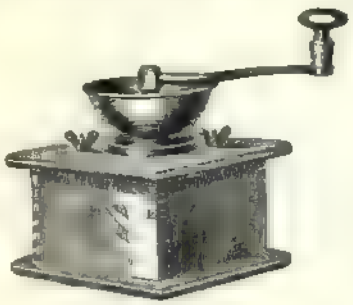
NO.	DESCRIPTION.	PER DOZEN
9	Planters' Mill, all Iron, Diameter of Wheel, 17 inches	$13 00

TWO IN A BOX.

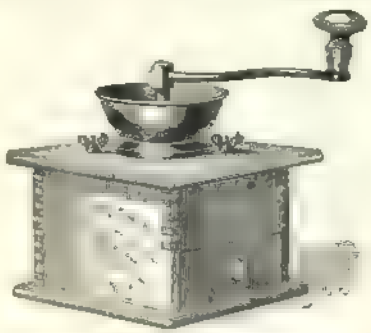
Box Coffee and Spice Mills.

Dovetailed Boxes.

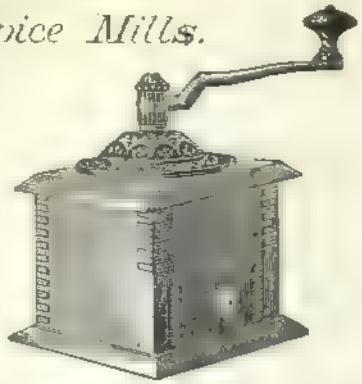
NO.	DESCRIPTION.	PER DOZ.
4	Coffee or Spice Mill, Iron Hopper	$6 00



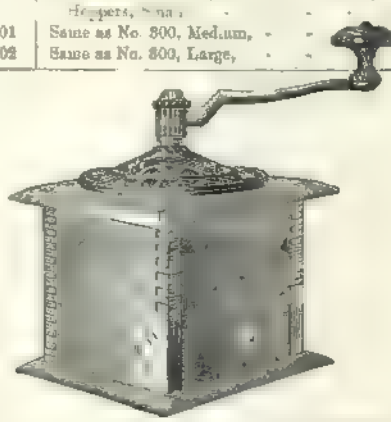
NO.	DESCRIPTION.	PER DOZ.
102	Eagle Mill, Iron Hopper, Large,	$9 50
103	" " " " Medium,	9 00
104	" " " " Small	8 50
107	" " Britannia " Large,	11 50
108	" " " " Medium,	11 00



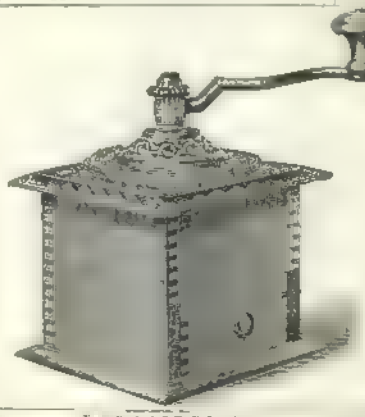
NO.	DESCRIPTION.	PER DOZ.
35	Universal Mill, Large, Hopper	$15 00
36	Universal Mill, Britannia Hopper	17 00



NO.	DESCRIPTION.	PER DOZ.
300	National Mill, Fancy Bronzed Covered Hoppers, Small,	$11 50
301	Same as No. 300, Medium,	13 00
302	Same as No. 300, Large,	14 00



NO.	DESCRIPTION.	PER DOZ.
325	National Mill, Fancy Bronzed Covered Hoppers, Double Grinders, Extra Large,	$15 00



NO.	DESCRIPTION.	PER DOZ.
401	National Iron Mill, Painted Iron Top,	$14 00

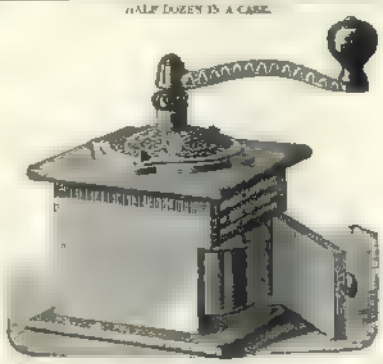
Box Coffee Mills.

NO.	DESCRIPTION.	PER DOZEN
1050	Waddell's, Returned Hopper, Copper Trimmings,	$6 50

HALF DOZEN IN A CASE.

NO.	DESCRIPTION.	PER DOZEN
101	Bronzed Iron Top, Medium Size,	$[illegible] 00
0102	Bronzed Iron Top, Large Size,	14 00

HALF DOZEN IN A CASE.

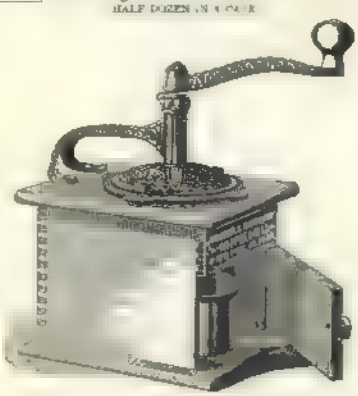


1010	Waddell's, Copper Bronzed Top,	$8 00
1020	Waddell's, Nickel Plated Top,	10 00

HALF DOZEN IN A CASE.

[illegible]	[illegible] Nickel Japanned Hardware Nickel Grinders, [illegible] Cup	$[illegible] 00

HALF DOZEN IN A CASE.



NO.	DESCRIPTION	PER DOZEN
40	Waddell's, Copper Bronzed Top,	$10 50
40	Waddell's, Nickel Plated Top,	13 00

HALF DOZEN IN A CASE.

No. 0 No. 1

For Grinding Coffee [illegible] Spices.

NO.	DESCRIPTION	PER
0	Enterprise, with Clamp, Stands 9½ in. above Table, Hopper Holds 1 oz. Coffee Highly Ornamented,	$1 50
1	Enterprise, with Stand [illegible] Grinds Coffee or Mixed Spices, Ornamented,	2 25

WOOD TACKLE BLOCKS.

Harcourt's Patent.

Fig. 100.

Style No. 7.

Fig. 101.

Style No. 8.

Fig. 102.

Style No. 9.

Inside Iron Strapped, Galvanized Iron Sheaves, Polished Scores, Metaline Bushed Loose Hooks.

SIZES AND PRICES.

Size Sheave Frame	DIMENSIONS. For Dia. Rope	Size Shc	METALINE BUSHED, SELF-LUBRICATING. Single	Double	Triple
2¼ × ⅝ × ½	½	4 inches.	$1 50	$2 90	$4 15
3 × ¾ × ⅝	⅝	5 "	1 75	3 35	4 75
3½ × 1 × ¾	¾	6 "	2 20	4 00	5 80
4¼ × 1 × ⅞	⅞	7 "	2 50	4 50	6 70
4½ × 1½ × 1	1	8 "	3 25	5 70	8 50
5½ × 1½ × 1	1	9 "	3 70	6 75	10 00
6¼ × 1¼ × 1	1¼	10 "	4 75	8 50	12 50
7⅛ × 1⅝ × ⅝	1⅛	11 "	Same	list as 12 inch.	
8 × 1⅝ × ⅝	1¼	12 "	6 75	12 50	18 50
9 × 1½ × ⅝	1⅜	13 "	Same	list as 14 inch.	
9½ × 1½ × 1	1⅜	14 "	9 75	17 00	25 00
10 × 1⅝ × 1	1½	15 "	11 00	19 50	28 50

WOOD TACKLE BLOCKS.

HARCOURT'S PATENT.

Fig. 103.

Style No. 4.

Fig. 104.

Style No. 5.

Fig. 105.

Style No. 6.

INSIDE IRON STRAPPED LIGNUMVITÆ OR IRON SHEAVES, LOOSE HOOKS AND BECKET.

SIZES AND PRICES.

DIMENSIONS.				IRON BUSHED.			SELF-ADJUSTING ROLLER BUSHED.		
Size Sheave	For Dia Rope	Size	Mortise	Single	Double	Triple	Single	Double	Triple
1¾ x ½ x 3/8	3/8	3	3/8	$0 70	$1 30	$ 1.75	$ 1 10	$ 2 00	$ 2.90
2 x ½ x 3/8	3/8	3½	3/8	0.75	1.45	2.00	1.15	2.20	3.15
2¼ x 5/8 x 3/8	1/2	4	3/8	0 85	1.60	2 15	1.20	2.25	3.25
3 x ¾ x 3/8	5/8	5	3/8	0.90	1.75	2.25	1.25	2.35	3.50
3½ x 1 x 1/2	¾	6	1/2	1.10	2 00	2.90	1.50	2 85	4 40
4¼ x 1 x 1/2	7/8	7	1/2	1 30	2.40	3.50	1 70	3 35	5.00
4¾ x 1½ x 5/8	1	8	1/2	1.65	2.85	4.25	2.25	4 15	6 00
5½ x 1½ x 5/8	1	9	1/2	1.85	3.40	4.75	2 50	4 70	7 25
6¼ x 1¾ x 5/8	1 1/8	10	1/2	2 75	4.50	6.25	3 50	6 00	8.50
7¼ x 1¾ x ¾	1 1/8	11	1/2	Same	list as	12 inch.	Same	list as	12 inch.
8 x 1⅝ x ¾	1 1/4	12	1/2	4 45	7 50	10 65	5 30	9 20	13 20
9 x 1½ x ¾	1¼	13	1/2	Same	list as	14 inch.	Same	list as	14 inch.
9½ x 1⅝ x ¾	1 3/8	14	1/2	7.00	10 50	15 00	8 15	12 80	18 45
10 x 1⅝ x ⅞	1 1/2	15	1/2	8 00	13 00	18 00	9 25	15 50	21 75
11 x 1⅝ x ⅞	1⅝	16	1/2	10 00	15 00	22 00	11 50	18 00	26 50

For Blocks with mortise wider than above, add 10 per cent to list for each extra ¼ inch or fraction thereof.
Add extra for Blocks with Swivel Jaws and Loose Swivel Hooks, as per list below.

BLOCKS WITH SWIVEL JAWS.

	DIAMETER OF SHEAVE.									
Size of Block	5	6	7	8	9	10	12			
Add to List	$1.00	$1.25	$1.50	$1.75	$2.00	$2.25	$2.50			

For Blocks with Loose Swivel Hooks, add to list for each hook, as follows:—

	$0 50	$0 50	$0 50	$0 60	$0.75	$0 90	$1.20	$1.75	$2.50	$3.00	$3.50
Size Hook	5/8	¾	7/8	1	1⅛	1¼	1⅜	1½	1⅝	1¾	2
Block Single	5	6	7	8	9	10	12	13	14	15	16
" Double		5	6	7	8	9	10	12	13	14	15
" Triple			5	6	7	8	9	10	12	13	14

WOOD TACKLE BLOCKS.

Fig. 106.

Style No. 10.

Fig 107.

Style No. 11.

Fig. 108.

Style No. 12.

HEAVY PATTERN.

Thick Mortise, Double Cross Bolted (with Extra Heavy Straps and Hooks), Loose Hooks Rings, or Shackles, Lignumvitae or Iron Sheaves These blocks are designed for Railroad Mining, Bridge Building and General Contractors' Work

SIZES AND PRICES.

DIMENSIONS Size Sheave	For Diam. Rope.	Size Shell.	IRON BUSHED Single	Double.	Triple.	IMP. SELF-ADJUSTING FIVE-ROLL STEEL ROLLER BUSHED Single	Double.	Triple.
4¼ x 1⅛ x ½	1	7 inches.	$ 2 25	$ 4.00	$ 5 50	$ 3 00	$ 5 50	$ 7 75
4¼ x 1⅜ x ⅝	1⅛	8 "	2 75	4 50	6 30	3 50	6 00	8 50
5⅜ x 1⅜ x ⅝	1⅛	9 "	3.15	5.25	7.25	4 00	6 95	9 80
6¼ x 1½ x ¾	1¼	10 "	4.00	6 50	8.50	5.25	9 00	12 25
7 x 1½ x ¾	1¼	11 "	**Same**	**list as**	**12 inch.**	**Same**	**list as**	**12 inch.**
8 x 1⅝ x 1	1½	12 "	5.25	8 50	12.50	6 50	11 00	16 25
9 x 1¾ x ⅞	1½	13 "	**Same**	**list as**	**14 inch.**	**Same**	**list as**	**14 inch.**
9½ x 1⅞ x ⅞	1⅝	14 "	8 00	13 00	17 00	9.75	16.50	22 25
10 x 1⅞ x 1	1¾	15 "	9 00	15 00	20.00	11 00	19.00	26.00
11 x 2⅛ x 1	2	16 "	11.50	18 00	28 00	14 00	23 00	35 50

WITH GALVANIZED IRON SHEAVES AND POLISHED SCORES.

SIZES AND PRICES.

DIMENSIONS Size Sheave	For Diameter Rope.	Size Shell.	METALINE BUSHED, SELF-LUBRICATING. Single	Double.	Triple.
4¼ x 1¼ x ⅝	1⅛	8 inches.	$ 5.00	$ 9 00	$13 00
5⅜ x 1⅜ x ⅝	1⅛	9 "	5.75	10 00	15 00
6¼ x 1⅜ x ¾	1¼	10 "	7.25	13.50	19.00
7 x 1½ x ¾	1¼	11 "	**Same**	**list as 12**	**inch.**
8 x 1⅝ x ¾	1½	12 "	9 25	17 00	25.00
9 x 1¾ x ⅞	1½	13 "	**Same**	**list as 14**	**inch.**
9½ x 1⅞ x ⅞	1⅝	14 "	13 00	23 50	33 00
10 x 1⅞ x ⅞	1¾	15 "	15 00	26 50	37 00
11 x 2⅛ x 1	2	16 "	18.00	32 00	48 00

For very heavy work, we would recommend our Metaline Bush Blocks as being far more durable in every way, and much safer, for they prevent the pin from wearing in the least, as their self lubricating properties prevent any friction, either on bushing or pin.

Braces.

H., S., B. & CO.'S Polished Ratchet.

Polished Steel Bow, Cherry Stained Head and Handle

No.	2410	2412
Sweep,	10	12 in.
Per Dozen	$27 60	28 60

HALF DOZEN IN A BOX.

H., S., B. & CO.'S Nickel Plated Ratchet.

Nickel Plated Steel Bow, Lignumvitæ Head, Cocobolo Handle.

No.	1008	1010	1012
Sweep,	8	10	12 in.
Per Dozen	$33 00	36 00	39 00

HALF DOZEN IN A BOX.

Fray's Ball Bearing Ratchet.

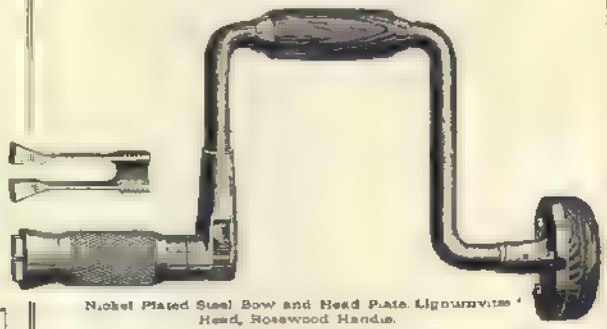
Nickel Plated Steel Bow, Jaws, Ratchet and Sleeve, Cocobolo Head, with Large Plate, Ball Bearing, Cocobolo Handle.

No.	66	86	106	126	146
Sweep,	6	8	10	12	14
Per Dozen,	$33 60	34 80	38 40	42 00	45 60

Adjustable to Square and Round Shank Bits, 1/4 inch and larger

HALF DOZEN IN A BOX.

Peck's Adjustable Ratchet.



Nickel Plated Steel Bow and Head Plate, Lignumvitæ Head, Rosewood Handle.

No.	0106	0102	0101
Sweep,	8	10	12 inch
Per Dozen,	$39 50	42 75	48 00

Adjustable to Square and Round Shank Bits, 1/4 inch and larger

HALF DOZEN IN A WOOD BOX.

Barber's.

Nickel Plated Steel Bow, Lignumvitæ Head, Rosewood Handle

No.	11	13	31 Ratchet.	2 Ratchet.	33 Ratchet.
Sweep,	12	13	[illegible]	[illegible]	9 in.
Per Dozen,	$30 00	27 00	36 00	36 00	33 00

HALF DOZEN IN A BOX.

Spofford's

Nickel Plated Steel Bow, Cocobolo Head and Handle.

No.	107	108	110
Sweep	[illegible]	8	10 in.
Per Dozen,	$21 00	24 00	27 00

QUARTER DOZEN IN A PACKAGE.

Universal and Drill Braces.

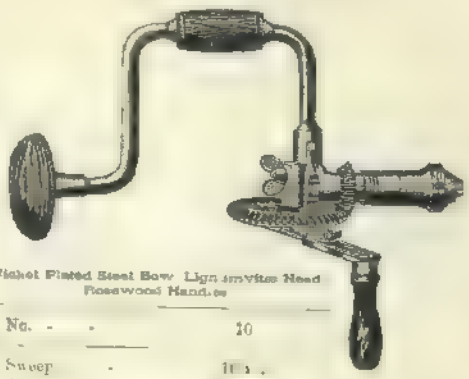
Universal Braces.

For Boring and Screw Driving in Corners, Angles and Other Difficult Places

No.	DESCRIPTION	PER DOZEN
2	Japanned Frame, Nickel Plated Sweep and Chuck, Hardwood Head and Handle, 7 inch Sweep,	$36 00
3	Full Nickel Plated, Hardwood Head and Handle, 7 inch Sweep,	39 00

The Universal Brace can be used with equal ease and effectiveness in whatever position one is called upon to work. The pressure on Brace-head is directly upon the bit end practically in the same straight line with it. The Brace frame is easily held in any desired position with one hand preferably the right, and the direction of the bit is thus always controlled. The revolution of crank-arm is at right angles with the bit, and is the same as in the ordinary brace. It does the work of two ordinary braces, and is more economical than the Ratchet Brace as it works for hours as fast

Ratchet Drill Brace.

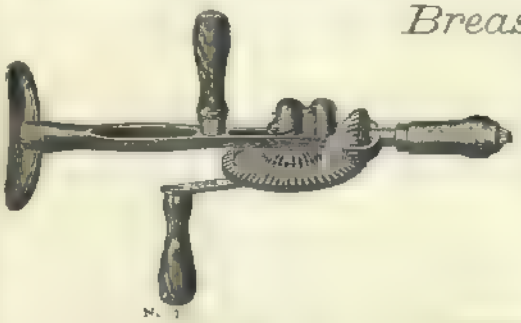


Nickel Plated Steel Bow, Lignumvitæ Head, Rosewood Handles

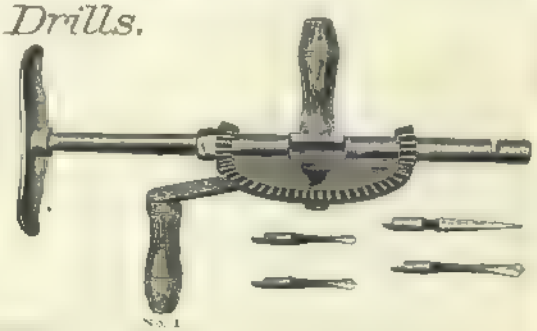
No.	10
Sweep	10 in.
Per Dozen,	$[illegible] 00

This is a ten inch sweep Ratchet Brace with a gear Wheel proceeded about three to one, [illegible] be used for driving [illegible] Wheel not needed, the Gear Wheel can be removed and [illegible] a Ratchet Brace. The jaws are of forged steel, are self centering and hold firmly round twist drills from 1-16 to 7-16 of an inch in diameter, also tool shanks of [illegible]

Breast Drills.

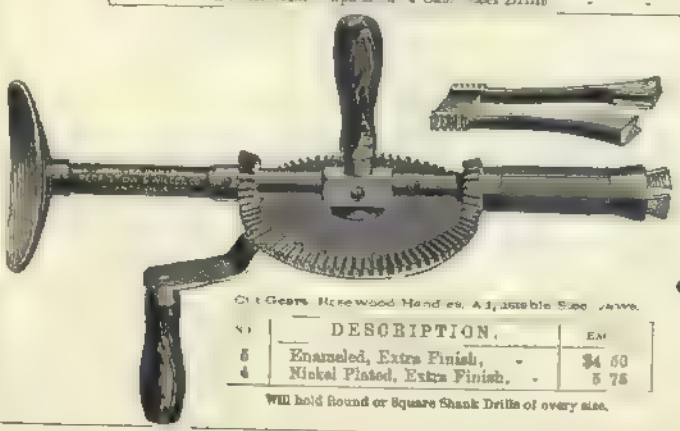


No. 1



No. 1

No.	DESCRIPTION.	EACH.
100	Malleable Iron Stock, Nickel Plated Chuck, 2 Pair Jaws, to Hold Square or Round Shank Drills, Rosewood Handle, Triangular Pinions,	$4 00
1	Double Gear, 4 spindles and 4 Cast Steel Drills,	4 00

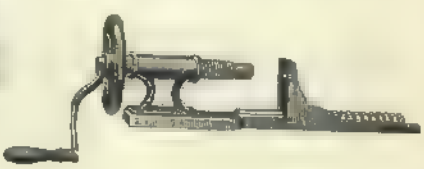


Cast Gears, Rosewood Handles, Adjustable Side Jaws.

No.	DESCRIPTION.	EACH.
5	Enameled, Extra Finish,	$4 50
4	Nickel Plated, Extra Finish,	5 75

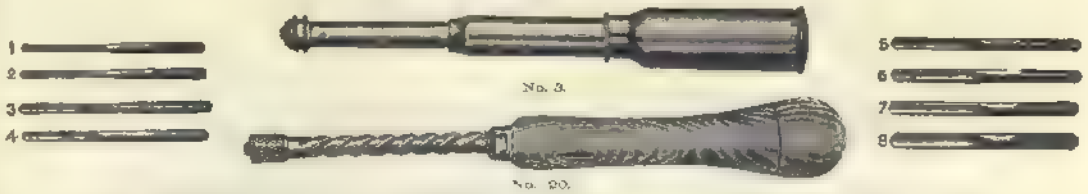
Will hold Round or Square Shank Drills of every size.

Blacksmiths' Hand Drills



DESCRIPTION.	EACH.
Length 23 inches. Weight 30 lbs. Has Square Hole to Mandrel.	$8 00

Hand Drills.

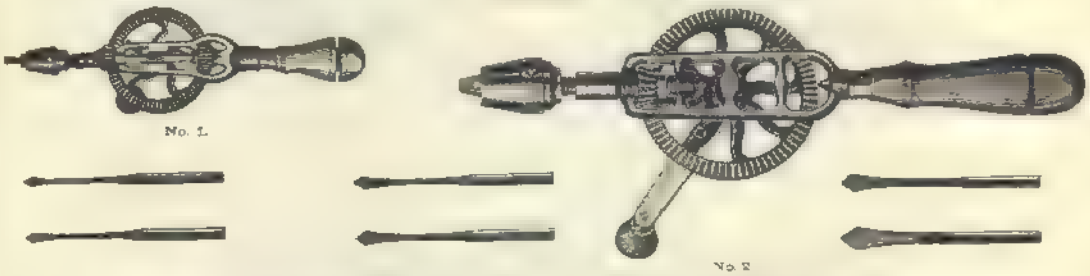


No. 3.

No. 20.

NO.	DESCRIPTION	PER DOZEN
3	Automatic Hand Drill, Length 9½ inches, Nickel Plated, 8 Cast Steel Drills inclosed in Numbered Compartments in Handle,	$26 00
	Extra Drills for above, Per Set, 8c. 75	1 10
20	Automatic Hand Drill, Length 12 inches, Cocobolo Handle inclosing 8 Cast Steel Drills in Compartments,	18 00
	Extra Drills for above, Per Set, 8c. 75	1 10

ONE IN A BOX.



No. 1.

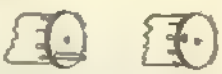
No. 2

Malleable Iron Stock, Rosewood Hollow Head and Handle, Nickel Plated Chuck.

NO.	DESCRIPTION.	PER DOZEN.
	Single Gear, Length 10 in., 6 Cast Steel Drills, will hold ⅛ in. Round Shank Drills,	$15 00
2	Single Gear, Length 12 in., 6 Cast Steel Drills, will hold ¼ in. Round Shank Drills,	20 00

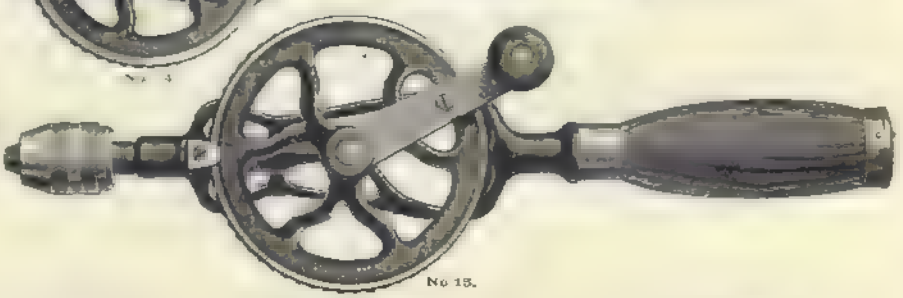
ONE IN A BOX.

No. 4.



The Handles of Nos. 3, 14 and 15 Hand Drills have a separate numbered compartment for each Drill. A revolving cap enables the operator to secure any desired size without interfering with the others.

The Chucks are made to hold Round Shank Drills, No. 14 up to ⅜ inch, and No. 15 ½ inch in diameter

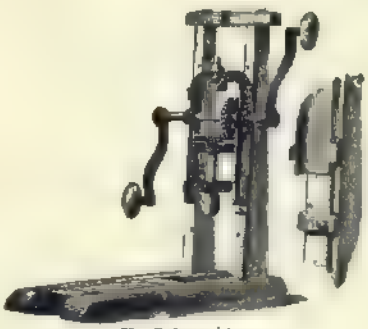


No 15.

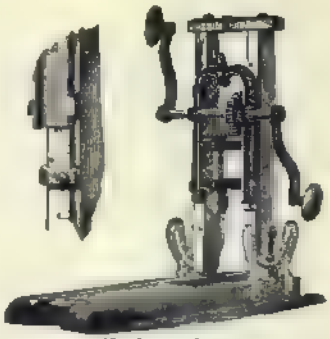
NO.	DESCRIPTION.	PER DOZEN
14	Single Gear, Length 10½ inches, Nickel Plated Improved Chuck, Nickel Plated Handle inclosing 8 Cast Steel Drills,	$30 00
15	Single Gear, Length 12 inches, Nickel Plated Improved Chuck, Cocobolo Handle inclosing 8 Cast Steel Drills,	45 00

ONE IN A BOX.

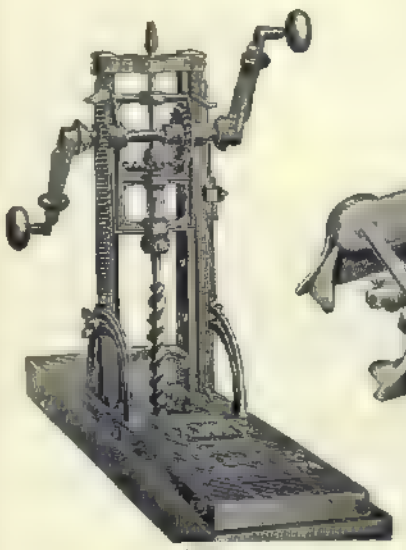
Boring Machines.



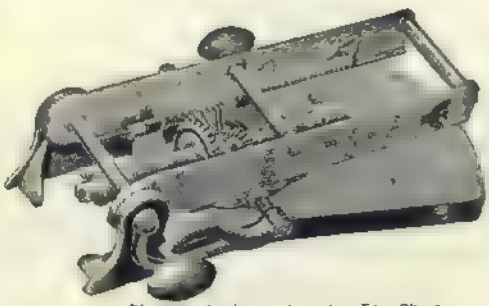
No. 5, Upright.



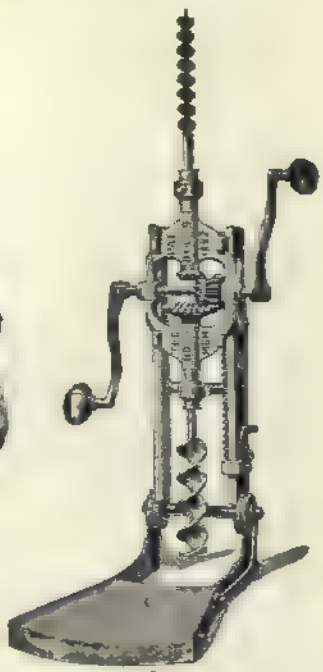
No. 2, Angular.



Ajax.



The Case to dec up to put in Tool Chest



Boss

NO.	DESCRIPTION.	EACH.
5	Upright, Adjustable Depth Gauge, without Augers,	$ 8 50
15	Upright, Adjustable Depth Gauge, with one each 1, 1⅛ and 2 inch Cast Steel Augers,	10 00
2	Angular, Adjustable Depth Gauge, without Augers,	7 50
12	Angular Adjustable Depth Gauge, with one each 1, 1⅛ and 2 inch Cast Steel Augers,	11 00
24	Ajax, Angular, Adjustable Depth Gauge Self-withdrawing Auger, Chuck Adjustable to Fit Boring Machine Augers or Brace Bits, Extension Handles, without Augers,	12 00
34	Same as above, with one each 1, 1⅛ and 2 inch Cast Steel Augers,	15 50
8	Boss Angular, Two Speed Adjust Depth Gauge, without Augers,	9 35
16	Same as above, with one each 1, 1⅛ and 2 inch Cast Steel Augers,	12 85

TWO IN A CASE OR CRATE.

Ceramic Stand Lamps.

All the Lamps on this page are complete with Chimney, Burner and Wick, ready to light.

No. D400

NO.	DESCRIPTION	EACH
D4001	Vase Lamp, Fine Tinted Opaline Finish, No. 2 Burner, Tripod, Chimney and Wick and 7-in Decorated Dome Shade to match Lamp. Three Decorations, - -	$1 40

Height to top of Chimney, 17 inches. Packed 6 complete Lamps in a barrel. Sold only in original packages.

No. D4004

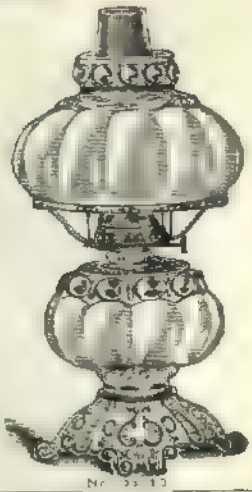
NO.	DESCRIPTION	EACH.
D4004	Vase Lamp, Fine Tinted Opaline Finish, No. 2 Burner, Chimney and Wick, Tripod and 7-in Melon Decorated Shade to match Lamp. Three Decorations, Flowers, -	$1 85

Height to top of Chimney, 18 inches. Packed 6 complete Lamps in a barrel. Sold only in original packages.

No. A4007

NO.	DESCRIPTION	EACH.
A4007	Vase Lamp, Tinted Opaline Finish. Lift-out Fount, Climax Burner Chimney, Tripod and 10-in Decorated Dome Shade to match Lamp Three different Decorations, - - -	$2 30

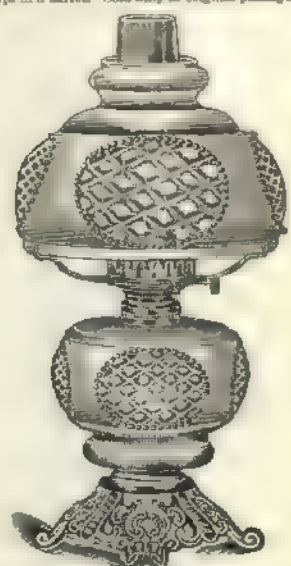
Height to top of Chimney 17½ inches. Takes No 2 Sun Chimney and No 3 Wick. Packed 6 Lamps in a barrel. Sold in original packages.



No. D4010

NO.	DESCRIPTION.	EACH.
D4010	Vase Lamp, Finely Colored, Complete, No. 2 Burner, Chimney, Tripod and Wick, Assorted Colors, Light Blue and Nile Green, Melon Shades match the Vase,	$1 85

Height to top of Chimney, 18 inches. Packed 6 complete Lamps in a barrel. Sold only in original packages.



No. D4012

NO.	DESCRIPTION	EACH.
D4012	Vase Lamp, Finely Colored, 8½ in Shade to match Vase, Climax Burner, Tripod, Wick and Chimney, Assorted Colors, Pink, Blue and Yellow	$2 75

Height to top of Chimney, 17 inches. Packed 6 complete Lamps in a barrel. Sold in original packages.

Ceramic Stand Lamps.

No. A4016.

We invite particular attention to facts concerning these lamps.

Handsome Decorations.
Lift-out Founts.
Metal Lined Vases.

Large Burners.
Oil Fillers.
10 inch Shades.

Fine Finish on the Metal Parts.

No. D4028.

NO	DESCRIPTION	EACH
A4016	Vase Lamp, Tinted Pearl Bisque Finish, Lift-out Fount, American Duplex Burner, Chimney, Tripod, and 10 inch Decorated Pearl Bisque Shade to match Lamp, three different Decorations,	$2 75

Height to top of Burner 12 inches. Takes No. 2 Sun Chimney and No. 3 Wick. Packed 6 complete Lamps in a barrel, two of each Decoration.

NO	DESCRIPTION	EACH
D4028	Vase Lamp, Tinted Opal Finish, with No. 1 Royal Central Draft Burner, Tripod, and 10 inch Decorated Shade to match Lamp, three different Decorations,	$3 75

Height to Burner, 11 inches. Takes No. 1 Rochester Chimney and Wick. Packed 6 complete Lamps in a barrel.

No. A4022.

A very Large Showy Lamp.

NO	DESCRIPTION	EACH
A4022	Vase Lamp, Tinted Pearl Bisque Finish, Lift-out Oil Fount, American Duplex Burner Chimney, Tripod and 10 inch Acorn Decorated Bisque Shade to match Lamp, three different Decorations,	$3 25

Height to top of Burner, 12¼ inches. Takes No. 2 Sun Chimney and No. 3 Wick. Packed 6 complete Lamps in a barrel, two of each Decoration.

NO.	DESCRIPTION	EACH
D4031	Vase Lamp, elegantly Colored Vase and Shade to match; three colors, Turquois, White and Nile Green; complete with No. 2 Central Draft Fount, Chimney and Tripod,	$4 20

Height to top of Burner, 13¼ inches. Takes No. 2 Rochester Chimney and Wick. Packed 6 complete Lamps in a barrel.

No. D4031.

Ceramic Decorated Lamps.

Elegant Decorations, Detachable B. & H. Founts with Chimney Lifter; can be lighted without removing Chimney or Shade.

65 candle power Lamps; absolutely no smoke or odor. Without question the most desirable Decorated Lamps in the market.

No. A4038

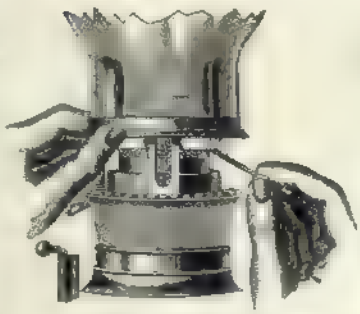
No.	DESCRIPTION	EACH.
A4037	Vase Lamp, Pearl Bisque Finish, B. & H. Central Draft Fount and Lighting Attachment, Tripod and Decorated Shade to match Lamp, Decoration, "Fairies' Bower,"	$5 55
A4038	Same, with Decoration of "Queen of the Fairies,"	5 55
A4039	Same, with Decoration of "Idle Hours,"	5 55

Height to Burner, 12¾ inches, takes No. 2 B. & H. Chimney and Wick. Packed six complete Lamps in a barrel, two of each decoration.

No. A4041

NO.	DESCRIPTION	EACH.
A4034	Vase Lamp, Pearl Bisque Finish, with B & H. Central Draft Fount and Lighting Attachment, Tripod and 10-inch Jewel Drop Shade to match Lamp. Decoration, "Paxinosa,"	$5 10
A4035	Same, with decoration of "In Arcadia,"	5 10
A4036	Same, with decoration of "Song Bird's Herald,"	5 10

Height to Burner, 13 inches, takes No 2 B. & H. Chimney and Wick. Packed six complete Lamps in a barrel, two of each decoration.



Cut Showing Lighting Device

All the Lamps shown on this page have this convenient device.

NO.	DESCRIPTION.	EACH.
A4040	Vase Lamp, Pearl Bisque Finish, B. & H. Central Draft Fount and Lighting Attachment, Tripod and Decorated Shade to match Lamp, Decoration, "Winsome Ruth,"	$6 00
A4041	Same, with Decoration of "Rococo,"	6 00
A4042	Same, with Decoration of "Love's Letter Box,"	6 00

Height to Burner 13 inches takes No 2 B. & H. Chimney and Wick. Packed six complete Lamps in a barrel, two of each decoration.

Metal Central Draft Lamps.

Where fancy effects are not as desirable as large light, these Lamps supply the want.

Inexpensive, yet giving the same light as a Lamp costing ten times as much.

No. 9431
Rochester Burner
Embossed Body Cast Handles and Feet

NO.	DESCRIPTION	EACH
9431	Lamp, as shown above, Antique Brass,	$4 [illegible]
9433	Same, but complete with 10 inch White Dome Shade and Holder,	4 [illegible]

Height to Burner, 9¾ inches

The Lamps on this page are very desirable as house Lamps

No. 9531.
B. & H. Burner.
Embossed Body Cast Handles and Feet.

NO	DESCRIPTION	EACH.
9531	Lamp as shown above, Antique Brass Finish,	$4 20
09531	Same as above, but Silver Relief Finish,	5 10
9532	Same as No. 9531 but complete with 10 inch White Dome Shade and Holder	4 80
09532	Same as No. 9532, but Silver Relief Finish,	5 85

Height to Burner, 11 inches

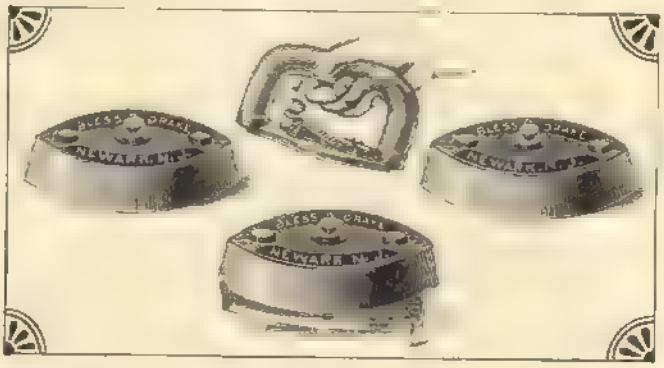
No. 9543.
B & H. Burner
Embossed Body Cast Handles and Feet.

NO	DESCRIPTION	EACH
9543	Lamp, as shown above, Antique Brass Finish,	$4 20
09543	Same as above but Silver Relief Finish,	5 10
9544	Same as No. 9543 but complete with 10 inch White Dome Shade and Holder, Antique Brass Finish,	4 80
09544	Same as No. 9544 but Silver Relief Finish,	5 85

Height to Burner, 10 inches.

The Ideal Sad Irons.

Bless & Drake's.



No. 250.

Double Pointed, with Detachable Wood Handles.

No		Per Set
250.	Nickel Plated; No. 1, 3½ lbs.; No. 2, 4¼ lbs.; No. 3, 4¾ lbs.	$2.50

Six Sets in a Case.

Self-Heating Smoothing Irons.

Use Charcoal.

		Per Dozen
2.	Self-Heating, Wood Handle, with Shield, 6 lbs., ...	10.00
3.	Self-Heating, Wood Handle, with Shield, 6½ lbs., ...	10.00

Half Dozen in a Case.

Star Sad Irons.

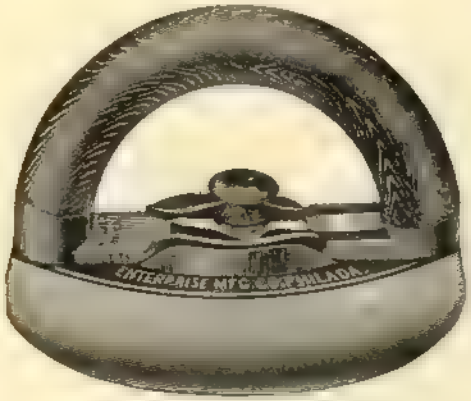
Enterprise Manufacturing Co's

Square Back, Tinned Handles, Tinned Caps.

No.		Per Dozen
71.	Nickel Plated, No. 1, 4¾ lbs., No. 2 5¾, lbs., No. 3 6⅛, lbs., assorted,	$5.50
76.	Plain Polished, No. 1, 4¾ lbs., No. 2 5¾, lbs , No. 3 6⅛, lbs., assorted,	5.00

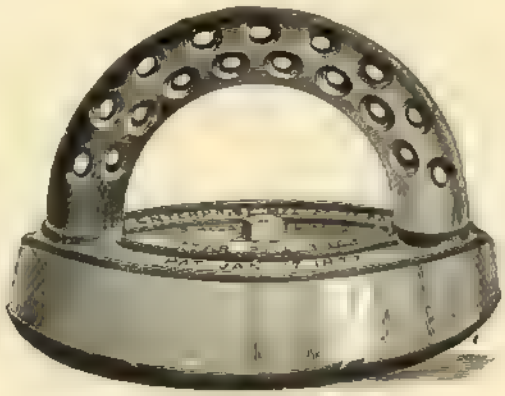
Polishing Irons.

Chinese.



Nos. 80 and 82.
Walnut Handles, Tinned Caps.

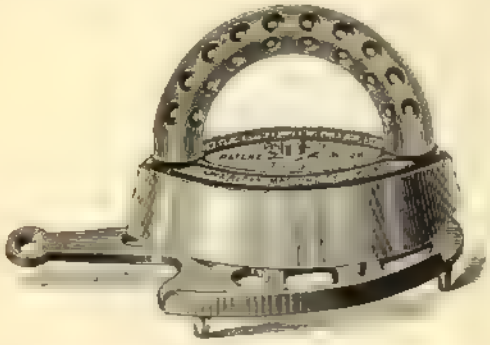
Star.



Nos. 72 and 77.
Perforated Iron Handle.

		Per Dozen			
82.	3 lbs. Nickel Plated,	$6.75	72.	Nickel Plated, 3 lbs.,	5.50
80.	4½ lbs. Nickel Plated,	9.25	77.	Plain Polished, 3 lbs.,	5.00

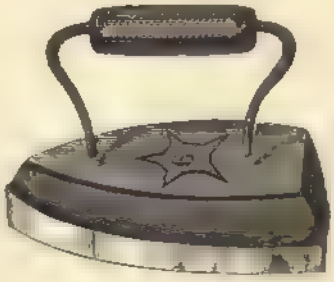
One Dozen in a Case.



"Star" Toy Sads.

No.		
110.	⅞ lb., Nickel Plated with Stand,	3.00
100.	2 lbs., Nickel Plated with Stand,	4.75

Sad Irons.



	Per Pound
Extra Polished, 5 to 9 lbs.,	$0.04
Assorted, 5 to 9 lb., 6 to 8 lb. Single Sizes, 5, 6, 7, 8 or 9 lbs., in 100 or 200 lb. Cases.	
Nickel Plated, 6 to 8 lbs., Assorted,	.08
100 lbs. in a Case, Assorted.	

Geneva Laundry Irons.

Geneva Polishing Irons.

No.		Per Dozen
1.	Laundry, Nickel Plated, 5 lbs.,	$ 9.00
2.	Laundry, Nickel Plated, 6 lbs.,	10.00
	Polishing, Nickel Plated, 3½ lbs.,	6.00

Troy Polishing Irons.

No. 1.

No. 2.

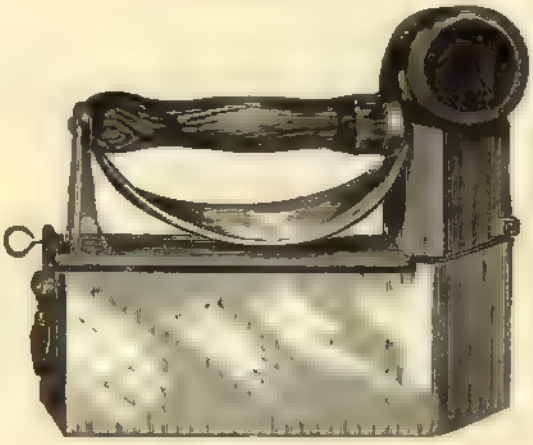
1.	Plain Face, Nickel Plated, 4 lbs.,	6.00
2.	Perforated Face, Nickel Plated, 4 lbs.,	7.00

Tailors' Geese.

Bless & Drake's.

	Per Pound
Extra Polished, 16, 18, 20, 22 and 24 lbs.,	$0.07

Self-Heating.



For Charcoal.

	Per Dozen
Single Flue, Polished, 14, 16 and 18 lbs.,	22.50

Sad Iron Stands.

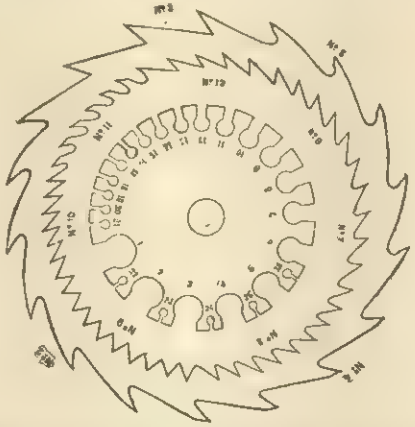
No. 2.

No		
2.	Sad Iron Stands,	.75
	Mrs. Pott's Sad Iron Stands,	.75

BARRY'S SOLID CIRCULAR SAWS.

Our saws have always held a high rank, and have steadily grown in favor among mill men. Their record for a uniform and reliable temper we believe to be unexcelled, but continued improvements in their manufacture have made it possible to finally turn out a saw practically free from any defects. Our saws will always have an even, reliable temper, and superior edge holding qualities, making them the most economical to use. We fully guarantee every one, and promptly make good all defects, of whatever nature, as soon as reported.

Only imported English steel, of very best quality is used in Barry Saws.



Every saw fully guaranteed if selected with reference to work to be done.

The above illustration represents our various styles and sizes of saw teeth; also Stubb's Standard Gauge. By consulting it, a person will be enabled to name the size and style of tooth, and also the gauge he may desire.

Gauge No.	4	is equivalent to			½	inch scant.	Gauge No.	11	is equivalent to			½	inch scant.
" "	5	"	"			"	" "	12	"	"			"
" "	6	"	"			"	" "	13	"	"			"
" "	7	"	"			"	" "	14	"	"			" full.
" "	8	"	"			" full.	" "	15	"	"			" scant.
" "	9	"	"			" scant.	" "	16	"	"			" full.
" "	10	"	"			" full.	" "	22	"	"			" "

TERMS OF WARRANTY.

Each Saw shall be warranted free from flaws or seams, and practically true. If found defective in either of these particulars it may be returned, and if, on examination by the maker, he is satisfied that the Saw is at fault, a new one may be given in exchange, or the Saw may be re-hammered, or made good at the option of the manufacturer.

N B.—Any alteration in mandrel or pin-holes of Circular Saws, by way of filing or reaming, or otherwise, will almost invariably spring the Saw, and render it unfit for use.

When this alteration is made the Saw will not be subject to the above warranty.

Caution.—The use of a cold chisel in re-toothing or altering cast steel tempered Saws of any kind will almost invariably crack the Saw, and filing corners square in the gullet of the tooth will produce the same result.

Saws breaking from such usage will not be considered as covered by our warranty.

STANDARD SAW GAUGE.

Each.....$1 50

SOLID TOOTH CIRCULAR SAWS.

Right Hand Saw.

Left Hand Saw.

Be careful when ordering Circular Saws to give the following directions.

Diameter of saw in inches.
Thickness of gauge of saw at rim.
Thickness of gauge of saw at center.
Right or left hand saw.
Number of teeth in saw.
Size of mandrel.
Size of pin holes.
Distance from center to center of pin holes.
Greatest feed at each revolution of saw in inches.
Number of revolutions of saw per minute.
When ordering small saws, please say whether for rip or cross-cut sawing.

Standing in front of the saw, with the saw revolving toward you, if the log passes to the right of the saw, it is a right hand saw; if to the left, it is a left hand saw.

PRICE LIST SOLID CIRCULAR SAWS.

Diameter.	Thickness	Size of Hole	Price each	Extra for each additional Gauge (heavier.)	Prices for beveling new saws grinding or beveling old saws, extra.)	Diameter.	Thickness.	Size of Hole	Price each	Extra for each additional Gauge (heavier.)	Prices for beveling new saws (grinding or beveling old saws, extra.)
4 inch	19 gauge.	¾ inch.	$1 00	$0 05	$0 14 pr gauge.	38 inch	9 gauge	1 inch	$30 00	$ 1 75	$1 85 pr gauge.
5 "	19 "	¾ "	1 20	06	16 "	40 "	9 "	2 "	35 00	2 00	2 00 "
6 "	18 "	¾ "	1 40	06	18 "	42 "	8 "	2 "	42 00	2 50	2 20 "
7 "	18 "	¾ "	1 70	06	20 "	44 "	8 "	2 "	50 00	3 00	2 40 "
8 "	18 "	¾ "	2 00	08	22 "	46 "	8 "	2 "	60 00	3 50	2 60 "
9 "	17 "	⅞ "	2 50	10	25 "	48 "	8 "	2 "	70 00	4 00	2 80 "
10 "	16 "	1 "	3 00	12	28 "	50 "	7 "	2 "	80 00	4 50	3 00 "
11 "	16 "	1 "	3 50	14	30 "	52 "	7 "	2 "	90 00	5 00	3 25 "
12 "	15 "	1 "	3 75	17	35 "	54 "	7 "	2 "	100 00	6 00	3 50 "
14 "	15 "	1¼ "	4 50	21	40 "	56 "	7 "	2 "	115 00	7 00	3 75 "
16 "	14 "	1¼ "	5 50	25	50 "	58 "	7 "	2 "	130 00	8 00	4 05 "
18 "	13 "	1 "	7 00	30	60 "	60 "	6 "	2 "	145 00	9 00	4 35 "
20 "	13 "	1 5-16"	8 50	35	70 "	62 "	6 "	2 "	160 00	10 00	4 65 "
22 "	12 "	1 5-16"	10 00	45	80 "	64 "	6 "	2 "	180 00	12 00	5 00 "
24 "	11 "	1¾ "	12 00	55	90 "	66 "	6 "	2 "	200 00	15 00	5 35 "
26 "	11 "	1 "	14 00	65	1 05 "	68 "	5 "	2 "	225 00	18 00	5 75 "
28 "	10 "	1¾ "	16 00	80	1 20 "	70 "	5 "	2 "	255 00	21 00	6 15 "
30 "	10 "	1 "	18 00	90	1 30 "	72 "	5 "	2 "	290 00	24 00	6 35 "
32 "	10 "	1¾ "	20 00	1 00	1 40 "	74 "	5 "	2 "	330 00	27 00	7 00 "
34 "	9 "	1¾ "	22 50	1 20	1 55 "	76 "	5 "	2 "	375 00	30 00	7 10 "
36 "	9 "	1¾ "	25 50	1 40	1 70 "						

Circular Saws to cut metal, 50 per cent. advance. No extra charge for saws one gauge thicker than list. Circular saws beveled one gauge without extra charge up to 44 inches, 44 inches and larger beveled two gauges without extra charge.

TOP SAWS FOR DOUBLE MILLS.

Diameter.	24	26	28	30	32	34	36
6 gauge	$14 20	$17 10	$18 40	$20 70	$24 00	$24 00	$28 80 each.
7 gauge	13 65	16 45	17 60	19 80	22 00	23 70	26 90 "
8 gauge	13 10	15 80	16 80	18 90	21 00	22 50	25 50 "
9 gauge	12 55	15 15	16 00	18 00	20 00	22 50	25 50 "
10 gauge	12 00	14 50	16 00	18 00	20 00	22 50	25 50 "

BAND SAWS FOR LOG MILLS.

Joined, Filed and Swaged, Ready for Use.

Width.	Usual Gauge.	Per Running Ft.	Width.	Usual Gauge.	Per Running Ft.
2 inches	17 to 19	$0 50	6 inches	15 to 19	$1 80
2½ "	17 to 19	65	7 "	15 to 18	2 15
3 "	17 to 19	80	8 "	15 to 18	2 50
3½ "	17 to 19	1 00	9 "	15 to 18	3 00
4 "	16 to 19	1 20	10 "	15 to 17	3 50
4½ "	16 to 19	1 35	11 "	15 to 17	4 20
5 "	16 to 19	1 50	12 "	15 to 16	5 00
5½ "	16 to 19	1 65			

When ordering Band Saws, give width, gauge and length, and whether to be joined, set and sharpened.

NET PRICES FOR BRAZING OR JOINING MILL BAND SAWS.

All sizes to 1 inch wide	$0 40	All sizes from 5 to 6 inches wide	$2 00
" from 1 to 2 inches wide	75 "	" " 6 to 7 " "	2 50 "
" " 2 to 3 " "	1 00 "	" " 7 to 8 " "	2 75 "
" " 3 to 4 " "	1 50 "	" " 8 to 10 " "	3 00 "
" " 4 to 5 " "	1 75 "		

SUGGESTIONS ON THE USE OF BAND SAWS.

Keep the correct pitch upon the tooth, so as to give the saw a proper lead into the cut. This will take the friction entirely off the stay pin. By the use of a round edge file the saw will be kept from galling and breaking. To save trouble and expense, a proper pitch must be held for each kind of work and wood.

SHINGLE AND HEADING SAWS.

(TO ORDER ONLY.)

Tapered to Gauge Desired.

30	32	34	36	38	40	42	44	46	48	50	52	54 inches.
$29 00	$32 00	$35 00	$38 50	$44 00	$50 00	$60 00	$72 00	$85 00	$100 00	$115 00	$135 00	$155 00 each

When ordering Shingle Saws, give following specifications: Diameter of saw in inches, thickness or gauge of saw at center and at rim, full sketch or pattern of holes, and number of screw by which to drill and countersink saw. If you have a flange, send it to have holes drilled in saw to fit flange. If you wish us to furnish the flange, send full and correct sketch of diameter, thickness, holes, etc. Give makers' name of machine on which saw is to be used, number of teeth you desire to have in saw, and be sure to give flat or countersunk side, and the direction which the teeth run.

SHINGLE AND HEADING SAW FLANGES.

18	20	22	24	26 inches.
$18 00	$20 00	$22 00	$24 00	$26 00

RE-SAWING SAWS.

Diameter	Gauge at Centre	Gauge at Edge.	Price	Diameter.	Gauge at Centre.	Gauge at Edge.	Price.
16 inches	11	15	$ 7 00	34 inches	8	14	$30 25
18 "	11	15	8 80	36 "	8	14	34 00
20 "	11	15	10 60	38 "	8	13	37 40
22 "	10	14	12 40	40 "	8	13	43 00
24 "	10	14	14 70	42 "	7	12	48 80
26 "	10	14	17 65	44 "	7	12	59 70
28 "	10	14	19 60	46 "	7	12	67 80
30 "	9	14	23 20	48 "	7	12	78 40
32 "	9	14	26 60	50 "	7	12	89 00

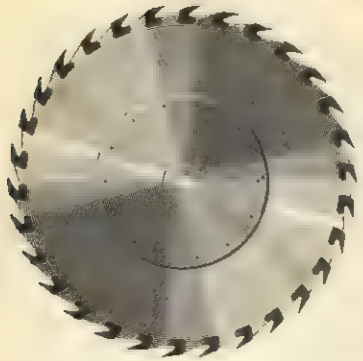
GROOVING SAWS.

Thickness	1/8 in.	5-16 in.	3/4 in.	5-16 in.	3/8 in.	7-16 in.	1/2 in.
Diameter, 4 inches	$1 20	$1 40	$1 60	$2 50	$3 50	$4 50	$5 00
" 5 "	1 55	1 75	2 10	3 00	4 00	5 00	6 00
" 6 "	1 90	2 20	2 70	3 50	4 50	5 50	6 50
" 7 "	2 30	2 70	3 30	4 00	5 00	6 00	7 00
" 8 "	2 70	3 20	3 90	4 75	5 75	6 75	7 75
" 9 "	3 30	3 75	4 50	5 25	6 25	7 25	8 25
" 10 "	3 90	4 50	5 10	6 00	7 00	8 00	9 00
" 11 "	4 50	5 10	5 70	6 50	7 50	8 50	9 50
" 12 "	5 10	5 70	6 25	7 50	8 50	9 50	10 50
Space of teeth	1/2 in.	1 in.	1 in.	1 1/4 in.	1 1/2 in.	1 3/4 in.	2 in.

EDGER SAWS.

	Diameter in Inches.						
	12	14	16	18	20	22	24
12 gauge	$3 35	$4 70	$5 25	$7 00	$8 50	$10 00	$12 00 each.
11 gauge	3 50	4 90	6 00	7 30	8 85	10 90	12 00 each.
10 gauge	3 65	5 10	6 25	7 80	9 20	10 45	12 00 each.
9 gauge	3 85	5 35	6 50	7 90	9 55	10 90	12 55 each.
8 gauge	4 00	5 55	6 75	8 20	9 90	11 35	13 10 each.

INSERTED TOOTH EDGER AND RESAWING SAWS.



Edger Saws, No. 9 or 10 Gauge.

Diameter,	16	18	20	22	24	26	28	30	in.
Price,	$18	20	22	25	27	30	31	32	ea.

Resawing Saws Tapered to No. 14 Gauge.

Diameter,	32	34	36	38	40	42	44	inches.
Price,	$45	50	55	62	70	80	90	each.

Single Cast Steel Collars, or Stiffeners, 75 cents per inch of diameter.

Double Cast Steel Collars, or Stiffeners, $1 50 per inch of diameter.

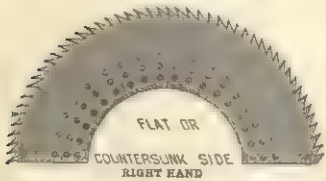
CIRCULAR MITER SAWS.

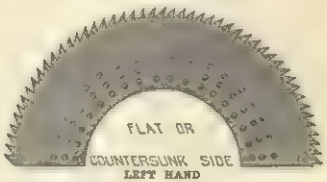
These saws are ground to run without set, especially adapted for smooth cutting, such as cabinet and cigar box work. When ordering give size of center hole, also diameter of collars on mandrel.

Size.	Gauge at Hole.	Gauge at Teeth	Price each	Size.	Gauge at Hole.	Gauge at Teeth	Price each.
6 inches.	19	16	$3 50	9 inches.	18	15	$4 75
7 inches.	19	16	3 75	11 inches.	17	14	5 25
8 inches.	19	16	4 00	12 inches.	17	14	5 75

Extra gauges heavy and beveling will be charged for same as our regular circular saw list.

VENEERING SAWS IN SEGMENTS.





When ordering Segments, give gauge or thickness at butt, gauge or thickness at edge, depth of bevel, diameter of saw that segments are to form, number of segments in saw, depth of segments, number of teeth in each segment, sample of screw by which to drill and countersink flat or countersunk side, and direction in which teeth run, referring to cuts above.

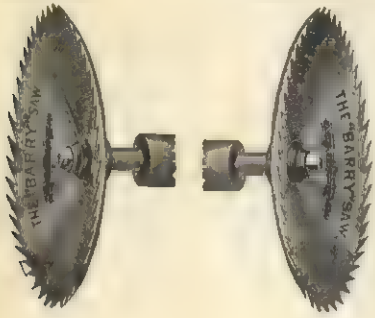
In ordering for a flange that has been drilled send a sheet iron or tin templet, or a correct tracing showing holes and other particulars; or one of the old segments, giving the depth they originally were.

Gauge of Saw,	5	6	7	8	9	10
Price per foot of Diameter of Saw, Segments 12 inches Deep	$17 00	16 25	15 50	14 50	14 00	13 50

Add five per cent. for each additional inch in depth. Deduct five per cent. for each inch under one foot in depth.

CONCAVE SAWS.

LEFT HAND. RIGHT HAND.



Our saws are dished and tempered by an entirely new process, and guaranteed to be of superior quality in every respect. We furnish these saws considerably cheaper in consequence of our new mode of manufacture.

6 in.,	18	gauge,	$2 20	5c	extra for each additional gauge		
7 "	18	"	2 60	6c	"	"	"
8 "	18	"	3 10	8c	"	"	"
9 "	17	"	3 60	10c	"	"	"
10 "	16	"	4 50	13c	"	"	"
12 "	15	"	5 90	17c	"	"	"
14 "	15	"	7 20	21c	"	"	"
16 "	14	"	9 00	25c	"	"	"
18 "	13	"	10 75	30c	"	"	"
20 "	13	"	13 50	35c	"	"	"

All sizes concaved to a smaller circle than 16 inches, extra price.

When ordering Concave Saws, give circle to be cut; also, which side is to be dished or concaved, right or left-hand, saw running toward you.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

GRINDSTONES.

Fig. 179.

Ohio Grindstones.....per lb., $... | Huron Grindstones.....per lb., $...

All stones over 200 pounds are sold by measurement weight, less than 200 pounds by cut weight, which is actual weight on scales as they come from the lathe and is always cut on the stone.

STANDARD TABLE OF WEIGHTS.

OHIO GRINDSTONES.

Estimate Weight of Stone 140 lbs. per Cubic Foot.

Diameter Feet	Diameter Inches	Weight of Stone 1 inch thick	Diameter Feet	Diameter Inches	Weight of Stone 1 inch thick	Diameter Feet	Diameter Inches	Weight of Stone 1 inch thick.
2	0	36 650	4	0	146 603	6	0	329 857
2	1	39 768	4	1	152 775	6	1	339 084
2	2	42 913	4	2	159 075	6	2	348 437
2	3	46 386	4	3	165 501	6	3	357 918
2	4	49.885	4	4	172 055	6	4	367 526
2	5	53 512	4	5	178 736	6	5	377 242
2	6	57 267	4	6	185 545	6	6	387 124
2	7	61 148	4	7	192 480	6	7	397 114
2	8	65 157	4	8	199 543	6	8	407 232
2	9	69 293	4	9	206 733	6	9	417 476
2	10	73 556	4	10	214 051	6	10	427 848
2	11	77 946	4	11	221 496	6	11	438 347
3	0	82 464	5	0	229 068	7	0	448 973
3	1	87 119	5	1	236 767	7	1	459 726
3	2	91 881	5	2	244 593	7	2	470 607
3	3	96 782	5	3	252 547	7	3	481 615
3	4	101 808	5	4	260 628	7	4	492 750
3	5	106 962	5	5	268.836	7	5	504 013
3	6	112 243	5	6	277 172	7	6	515 403
3	7	117 651	5	7	285 635	7	7	526 920
3	8	123 187	5	8	294 225	7	8	538 564
3	9	128 850	5	9	302 942	7	9	550 335
3	10	134 641	5	10	311 787	7	10	562 234
3	11	140 558	5	11	320 758	7	11	574 260

HURON GRINDSTONES.

Estimate Weight of Stone 155 lbs. per Cubic Foot.

Diameter Feet	Diameter Inches	Weight of Stone 1 inch thick.	Diameter Feet.	Diameter Inches	Weight of Stone 1 inch thick.	Diameter. Feet.	Diameter. Inches	Weight of Stone 1 inch thick
2	0	40 32	4	0	161 28	6	0	362 88
2	1	43 75	4	1	168 07	6	1	373 03
2	2	47 32	4	2	175 00	6	2	383 32
2	3	51 03	4	3	182 07	6	3	393 75
2	4	54 88	4	4	189 28	6	4	404 32
2	5	58 87	4	5	196 63	6	5	415 03
2	6	63 00	4	6	204 12	6	6	425 88
2	7	67 27	4	7	211 75	6	7	436 87
2	8	71 68	4	8	219 52	6	8	448 00
2	9	76 23	4	9	227 43	6	9	459 27
2	10	80 92	4	10	235 48	6	10	470 68
2	11	85 75	4	11	243 67	6	11	482 23
3	0	90 72	5	0	252 00	7	0	493 92
3	1	95 83	5	1	260 47	7	1	505.75
3	2	101 08	5	2	269 08	7	2	517 72
3	3	106 47	5	3	277 83	7	3	529 83
3	4	112 00	5	4	286 72	7	4	542 08
3	5	117 67	5	5	295 75	7	5	554 47
3	6	123 48	5	6	304 92	7	6	567 00
3	7	129 43	5	7	314 23	7	7	579 67
3	8	135 52	5	8	323 68	7	8	592 48
3	9	141 75	5	9	333 27	7	9	605 43
3	10	148 12	5	10	343 00	7	10	618 52
3	11	154 63	5	11	352 87	7	11	631 75

To find the weight of Grindstones over 1 inch thick, multiply the weight given in table by the thickness in inches.

MOUNTED GRINDSTONES.

Fig. 180.

THE frame of this Grindstone is made of seasoned oak, strongly braced in all directions, with oil and varnish finish. It has treadle crank, water trough and clothes protector, as shown in the illustration. The shaft is extra heavy, with turned rollers.

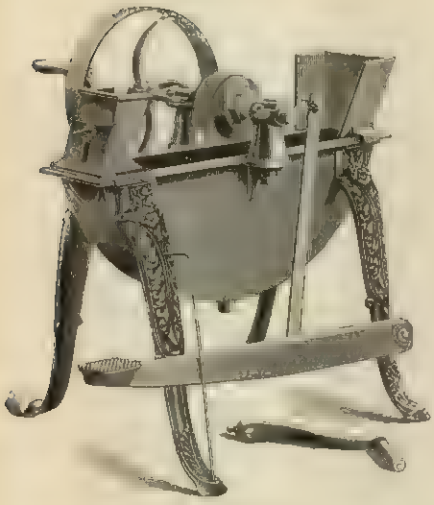
SIZES AND PRICES.

Size No.	Diameter	Thickness	Stone Weighs about	Price complete, each	Size No.	Diameter	Thickness	Stone Weighs about	Price complete, each
1	24	x 2	80 lbs.	$5 50	6	30	x 2	125 lbs.	$6 25
2	24	x 3	120 "	6 00	7	30	x 3	185 "	7 50
3	26	x 2½	115 "	5 90	8	32	x 2½	180 "	7 40
4	26	x 3	140 "	6 10	9	34	x 2	160 "	7 25
5	28	x 3	165 "	6 50	10	34	x 3	240 "	8.50

QUEEN CITY SUPPLY CO. CINCINNATI, O.

IRON GRINDSTONE FRAMES.

Fig. 181.



For Foot or Power.

✣

No. 1. To swing stone 30 x 4½ inch, with pulley for power, each... $15 00

No. 2. Arranged with pulley and treadle, for power and foot, each... 16 00

No. 3. To swing stone 48 x 6 inch, with pulley for power, each... 50 00

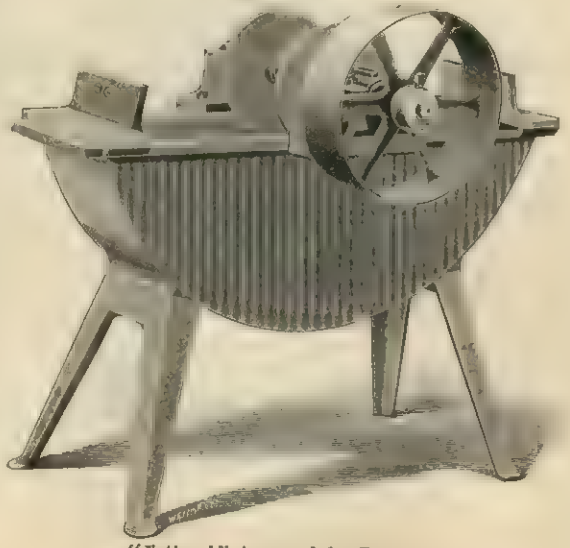
✣

"National" Grindstone Frame.

Diameter of Stone, 6 x 30 inches.
Diameter of Flanges, 8 inches.
Diameter of Arbor, between bearings, 1⅝ inch.
Diameter of Arbor, in bearings, 1 1⅜ inch.
Diameter of Pulley, 12 inches by 3½ inch face.
Length of Bearings, 4 inches.
Total weight of machine, 225 pounds.

PRICE, - - $40.00.

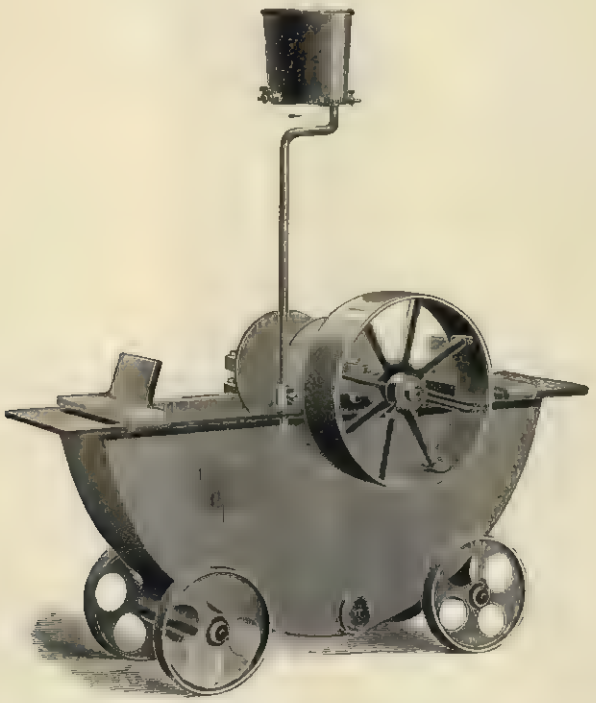
Fig. 182.



"National" Arranged for Power.

IRON GRINDSTONE FRAME.

Fig. 183.



WE here illustrate our large grindstone frame, or trough, which has many advantages over the ordinary frames now in the market. It is designed to carry a stone 48 inches in diameter by six or eight inch face. As shown in the cut, it is mounted on heavy axles and wheels.

When it is found necessary to dress the stone, the frame can be wheeled out of the shop and a belt run to it through a conveniently open window or door. All who use grindstones are familiar with the dust and dirt which fills the shop and covers other machinery, when it is found necessary for the stone to undergo the most disagreeable, but highly essential process of dressing. This frame is substantially built; the trough has an opening on the sides for cleaning, which opening is covered by a removeable flange. The oil boxes are covered with dust proof caps. The flanges against the stone, as will be seen below, are larger than commonly found on grindstone frames.

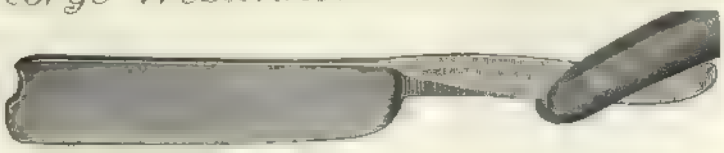
DIMENSIONS.

Diameter of stone, 48 inches by 6 or 8 inch face.
" " flanges, 12 inches.
" " arbor between bearings, 2½ inches.
" " " in bearings, 1 1/16 inches.

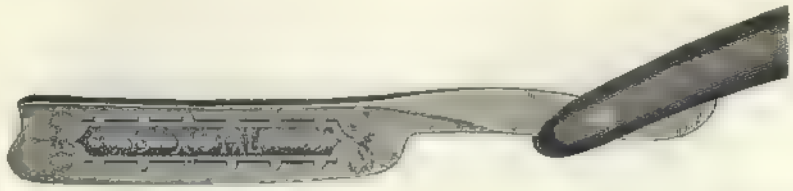
Diameter of pulley, 18 inches by 6 inch face.
" " wheels, 12 " " 2 " "
Length of bearings, 7 inches.
Total weight of machine, about 700 pounds.

Price, without stone ....$80.00.

George Wostenholm's I*XL Razors.

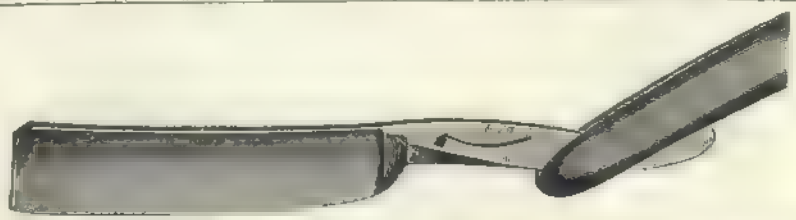


NO.	DESCRIPTION	PER DOZEN
109	Plain Blade, ⅜ inch wide, Round Point, Hollow Ground,	$13 35
101	" " ⅜ inch " " " "	13 35
103	Etched " ⅝ inch " " " "	16 70



NO.	DESCRIPTION.	PER DOZEN.
108	Gold Etched Blade, Crocus Polished, ⅜ inch wide, Hollow Ground,	$20 00
124	" " " " " ⅜ " " " Ivory Celluloid Handle,	22 50

NO.	DESCRIPTION.	PER DOZEN.
110	Etched Blade, ⅜ inch Wide, Full Hollow Ground,	$15 00
121	" " ⅜ inch " " " "	18 35
120	" " ½ inch " Medium " "	16 70
117	" " ⅝ inch " " " "	15 00
118	" " ⅜ inch " " " " Imitation Shell Handle	14 20



NO.	DESCRIPTION.	PER DOZEN
112	Crocus Polished Blade, ⅜ inch wide Full Hollow Ground,	$21 70
125	" " " " " " " "	22 50
111	Etched Blade, ⅜ inch wide Hollow Point, Fine Tang, Full Hollow Ground	20 00

HALF DOZEN IN A BOX.

Wade & Butcher's Razors.

NO.	DESCRIPTION.	PER DOZEN
201	Etched Blade, ⅞ inch wide, Slope Point, Hollow Ground,	$13 35
203	Etched Blade, ⅞ inch wide, Slope Point, Hollow Ground,	16 25
213	Etched Blade, ⅞ inch wide, Hollow Point, Hollow Ground,	20 85
218	Etched Blade, ⅞ inch wide, Hollow Point, Hollow Ground,	15 00

NO.	DESCRIPTION	PER DOZEN.
211	Etched Blade, ⅞ inch wide, Square Point, Beveled Back, Hollow Ground,	$22 50
210	Etched Blade, ⅞ inch wide, Square Point, Hollow Ground,	17 50
211	Etched Blade, ⅞ inch wide, Square Point, Hollow Ground,	18 75
206	Plain Blade, ⅞ inch wide, Square Point, Bow Razor, Hollow Ground	19 20

NO.	DESCRIPTION	PER DOZEN
205	Etched Blade, ⅞ inch wide, Round End, Crocus Polished, Hollow Ground,	$22 50
204	Etched Blade, ⅞ inch wide, Round End, Crocus Polished, Hollow Ground,	21 70

NO.	DESCRIPTION.	PER DOZEN.
217	Hollow Ground, ⅞ inch Blade, Mottled Celluloid Handle,	$16 70

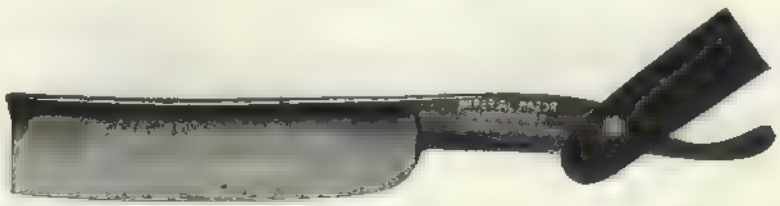
HALF DOZEN IN A BOX.

Wade & Butcher's Razors.

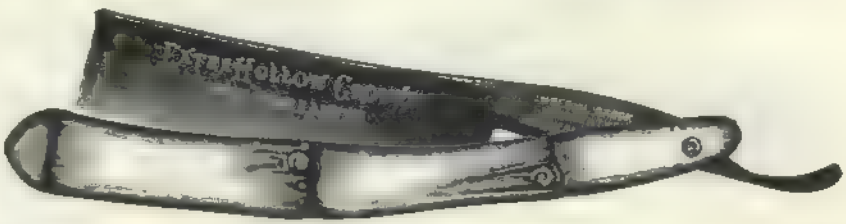
NO.	DESCRIPTION	PER DOZEN
210	Barbers' Hollow Ground, $\frac{1}{2}$ inch Blade	$23 35
211	Barbers' Hollow Ground, $\frac{5}{8}$ inch Blade	25 00

NO.	DESCRIPTION.	PER DOZEN
216	Hollow Ground, $\frac{5}{8}$ inch Blade, Mottled Celluloid Handle,	$23 35

Razors.



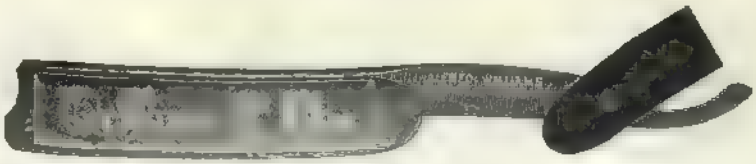
NO.	DESCRIPTION	PER DOZEN.
501	Extra Hollow Ground $\frac{5}{8}$ inch Blade,	$12 50



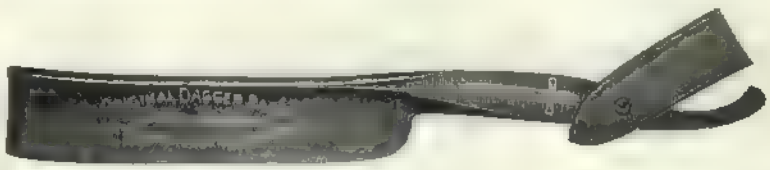
NO.	DESCRIPTION.	PER DOZEN.
502	Extra Hollow Ground, $\frac{5}{8}$ inch Blade, Fancy Celluloid Handle,	$15 00

HALF DOZEN IN A BOX.

Razors.

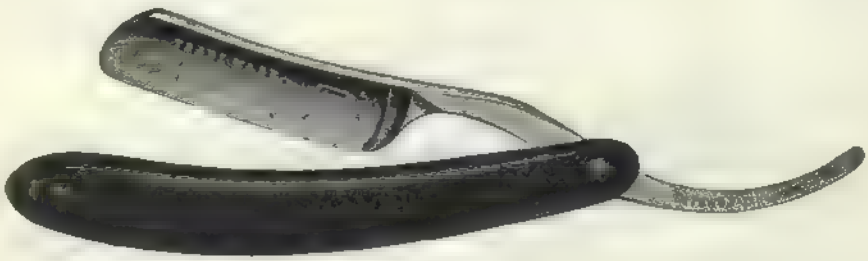


NO.	DESCRIPTION.	PER DOZEN.
503	Hollow Ground, ⅝ inch Blade,	$6 25
126	Hollow Ground, ⅝ inch Blade, Square Point, Wostenholm Pipe	8 35



NO.	DESCRIPTION	PER DOZEN.
500	Medium Hollow Ground, ⅝ inch Blade,	$10 00

NO.	DESCRIPTION.	PER DOZEN.
[illegible]	Swedish, Genuine Engstrom, ⅝ inch Blade,	$20 00



NO	DESCRIPTION	PER DOZEN.
3499	Etched Blade, ⅝ inch wide, Hollow Ground, De Pew's Patent,	$20 00

HALF DOZEN IN A BOX

Pocket Knives.

CUTS FULL SIZE

Geo. Wostenholm & Sons.

No. 12056.

No.		Per Dozen
12115	2 Blades, Cocoa, Brass Lined, German Silver, Shield and Bolster.	$ 9.50
12056	2 Blades, Black Buffalo, Brass Lined, German Silver, Shield and Bolster.	9.75

No. 2000

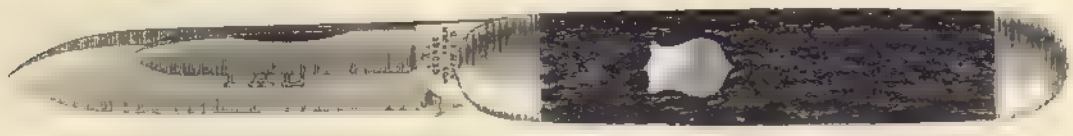
2000.	2 Blades, Cocoa, Iron Lined, Glazed,	8 00
2001.	2 Blades, Ebony, Iron Lined, Glazed,	8.00
2165.	2 Blades, Ebony, Brass Lined, Glazed,	8.75
2167.	2 Blades, Pat Stag, Brass Lined, Glazed,	8.75

No. 2049

2035.	2 Blades, Cocoa, Iron Lined, Glazed,	8 25
2049.	2 Blades, Ebony, Iron Lined, Glazed,	8.25

No. 11385

2168.	2 Blades, Cocoa, Iron Lined, Glazed,	9.00
2169.	2 Blades, Ebony, Iron Lined, Glazed,	9 00
13834.	2 Blades, Cocoa, Brass Lined, German Silver, Shield and Bolster.	9.75
11385.	2 Blades, Black Buffalo, Brass Lined, German Silver, Shield and Bolster.	9 75



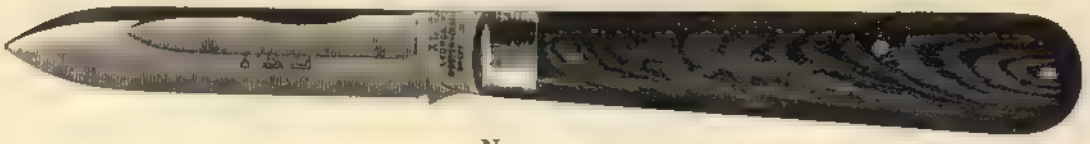
No. 2043.

2033.	2 Blades, Ebony, Brass Lined, Glazed,	12.00
2043.	2 Blades, Pat Stag, Brass Lined, Glazed,	13.00
2030.	2 Blades, Ebony, Iron Lined, Glazed,	10.50

Pocket Knives.

CUTS FULL SIZE

Geo. Wostenholm & Sons.



No. 12319.

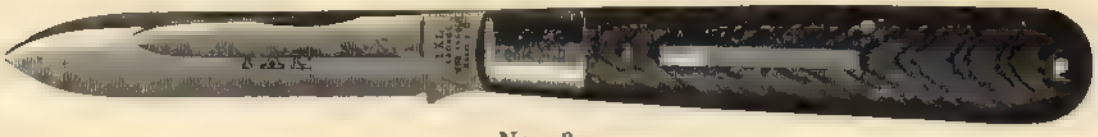
No.		Per Dozen
12319.	2 Blades, Black Buffalo, Iron Lined, Iron Bolster, Glazed,	$ 9.00
9506.	2 Blades, Stag, Iron Lined, Iron Bolster, Glazed,	9.00
12087.	2 Blades, Cocoa, Brass Lined, German Silver Bolster, Glazed,	9.25
11810.	2 Blades, Black Buffalo, Brass Lined, German Silver Bolster, Glazed,	9.25
13810.	2 Blades, White Bone, Brass Lined, German Silver Bolster, Glazed,	9.25

No. 11383.

11383.	2 Blades, Black Buffalo, Brass Lined, German Silver Bolster,	10.25
13466.	2 Blades, Stag, Brass Lined, German Silver Bolster,	11.75

No. 12044.

12044. 2 Blades, Black Buffalo, Brass Lined, Polished, ... 12.00



No. 9890.

9890. 2 Blades, Cocoa, Brass Lined, Polished, ... 11.50

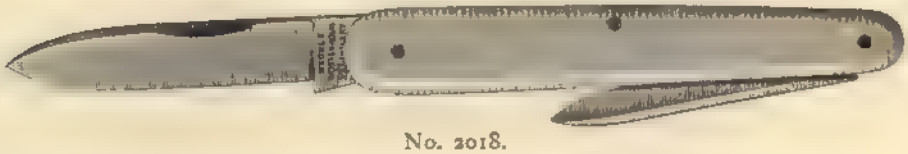
No. 16144.

16144. 2 Blades, Black Buffalo, Brass Lined, Etched, ... 11.50

Pocket Knives.

CUTS FULL SIZE

Geo. Wostenholm & Sons.



No. 2018.

No.		Per Dozen
2018.	2 Blades, Ivory, Brass Lined,	$ 9.00
2060.	2 Blades, Patent Stag, Brass Lined,	9.00

No. 2071.

2071.	3 Blades, Patent Stag, Brass Lined, Glazed,	15.50
2073.	3 Blades, Pearl, Brass Lined, Glazed,	23.50

No. 14422.

14422.	2 Blades, Stag, Brass Lined, German Silver Tips,	14.50
14226.	3 Blades, Stag, Brass Lined, German Silver Tips,	18 50

No. 13178.

12414.	2 Blades, Ivory, Vest Pocket, Crocus Finish,	14.75
13178.	2 Blades, Pearl, Vest Pocket, Crocus Finish,	22.00

No 17019.

17019.	3 Blades, Stag, Brass Lined, Glazed,	14.50
15632.	3 Blades, Grey Buffalo, Brass Lined, Glazed,	14.50

No. 14083.

14083.	3 Blades, Black Buffalo, Brass Lined, Glazed,	18.50
14320.	3 Blades, Stag, Brass Lined, Glazed,	16.50

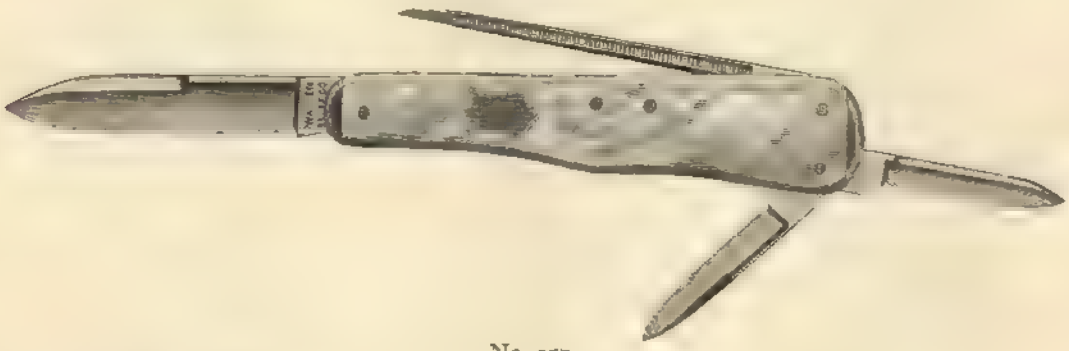
Fancy Pocket Knives.

No. 6059P.

No.		Per Doz.
6059P.	Pearl, Fancy Silver Bolsters, Button Hook and Flat Nail,	$20.00
4950.	Pearl, same Knife with 4 Blades,	16.00

No. 3232P.

3230.	Pearl, Two Blades with Nail Cleaner, Crocus Finish,	21.00



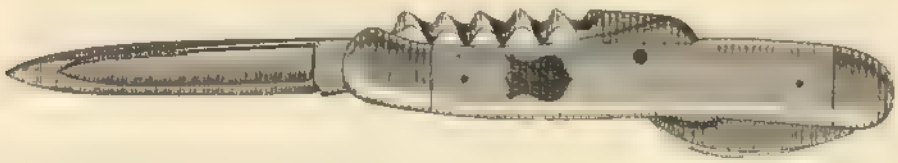
No. 357.

357.	Pearl, Three Blades with Nail Cleaner, Crocus Finish,	27.00

No. 100.

The Press Button Knife.

No.		
100.	2 Blades, Stag, Brass Lined,	9.00
103.	2 Blades, Celluloid, Brass Lined,	10.00
105.	2 Blades, Pearl, Brass Lined,	20.00



5821.	3 Blades, Champaign, Nickel Plated,	21.00
811.	3 Blades, Champaign, Pearl, Crocus Finish,	36.00

REECE'S IMPROVED SCREW PLATES.

The Reece Screw Plates are unexcelled for durability, completeness and convenience in making perfect threads at a single cut. High quality of material and workmanship, together with its moderate price, make the New Reece Screw Plate one of the most attractive in the market.

The prices as shown include one or more adjustable tap wrenches, complete in case, as the assortment requires.

	Price Complete.
Size A, stock 22 inches long, cuts 1/4, 5/16, 3/8, 7/16 and 1/2 inch	$12 00
Size B, " 26 " " " 1/2, 5/8, 3/4, 7/8 and 1 inch	17 50
Size C, " 26 " " " 3/8, 7/16, 1/2, 9/16, 5/8 and 3/4 inch	16 00
Size D, " 26 " " " 5/8, 7/8, 1, 1 1/8, 1 1/4, 1 3/8 and 1 inch	22 00
Size E, " 26 " " " 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 7/8 and 1 inch	25 00
Size F, " 53 " " " 1 5/8, 1 3/4, 1 7/8 and 1 1/4 inch	37 50
Size G, two stocks, one 26 inches long, cuts 1/2, 9/16, 5/8, 3/4, 7/8 and 1 inch, and one stock 40 inches long, cuts 1 1/8 and 1 1/4 inch	42 00
Size H, stock 26 inches long, cuts 1/4, 5/16, 1/2, 5/8 and 3/4 inch	13 50

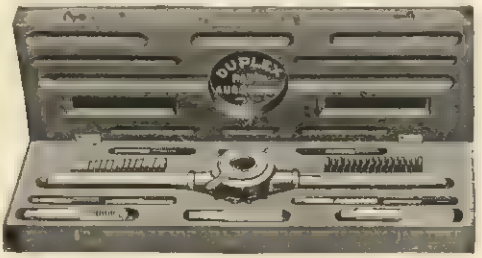
All collets up to and including one inch are 2 3/4 inches in diameter; therefore any collet, die and tap not included in Sizes A, B, C, D, E and H, and small stock G, may be added at any time by sending to your dealer.

The diameter of collets holding 1 5/8, 1 3/4, 1 7/8 and 1 1/2 inch dies is 4 inches.

DUPLEX DIE STOCK.

(For Threading Bolts.)

Dies can be sharpened on a grindstone.



Instantly adjusted to cut any size named in set.

The cut shows AA, A, and B, Duplex die stock, without guides or cut-off, fitted for carriage-makers', machinists' and model-makers' use. Cut can be varied 1/8-inch either way with same set of dies, opened and taken off, without turning back. We furnish them put up in a neat wood case, with complete set of dies and taps.

For Blacksmiths and Carriage-Makers.

Size AA Diameter	1/4 & 5/16	3/8 & 7/16	1/2 & 9/16	5/8 & 3/4	7/8 & 1
Cuts Threads	24	18	14	12	10

Put up in case with 7 taps and 4 sets of dies. $12 00

Size A Diameter	1/4 & 5/16	3/8 & 7/16	1/2 & 9/16	5/8 & 3/4	
Cuts Threads	18	14	12	10	

Put up in case with 8 taps and 4 sets of dies. $17 00

Size B Diameter	3/4 & 7/8	5/8 & 7/8	1/2 & 7/8	5/8 & 3/4	7/8 & 1	
Cuts Threads	18	14	12	10	8	

Put up in case with 10 taps and 5 sets of dies. $24 00

For Machinists.

Size AA Diameter	1/16	1/8	3/16	1/4	5/16	3/8	1/2
Cuts Threads	32	24	20	18	16	14	12

Put up in case with 7 taps and 7 sets of dies. $15 00

Size A Diameter	1/4	5/16	3/8	7/16	1/2 & 9/16	5/8 & 3/4	7/8
Cuts Threads	20	18	16	14	12	11	10

Put up in case with 8 taps and 7 sets of dies. $20 00

Size B Diameter	1/4	5/16	3/8	7/16	1/2 & 9/16	5/8	3/4	7/8 1
Cuts Threads	20	18	16	14	12	11	10	9 8

Put up in case with 10 taps and 9 sets of dies. $30 00

GREEN RIVER SCREW PLATES.

We offer the following different assortments of these favorite screw plates; the sets being made up with and without Green River Tap Wrenches.

The Green River Screw Plate, like the Lightning Plates, does its work at a single cut. The die is adjustable for wear, and to make bolts and nuts fit tightly or loosely, as may be desired.

All dies in following lists are $\frac{1}{64}$ oversize, and always furnished thread unless otherwise specified

FIG. 100—Set No. 1—$\frac{3}{16}$ to $\frac{7}{32}$" stock, 10 inches long; five sizes, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{7}{32}$, $\frac{3}{8}$, $\frac{7}{32}$". Taps, dies and guides complete with both stock and brace holder for dies, *in case*..... $ 8 75
Diameter of dies in this set, $1\frac{5}{16}$".

FIG. 101—Set No. 1½—$\frac{3}{16}$ to $\frac{1}{2}$" stock, 18 inches long; six sizes, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$", with taps, dies and guides, complete in case.. ..... 11 00
Diameter of dies in this set, $2\frac{1}{16}$". Price of adjustable tap wrench No. 2, if included in above set, $2.35.

FIG. 103—Set No. 1½ $\frac{1}{4}$ to $\frac{3}{4}$", stock 22 inches long; seven sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$", with taps, dies and guides, complete in case..... 13 00
Diameter of dies in this set, $2\frac{3}{16}$". Price of adjustable tap wrench No. 3, if included in above set, $3.00.

FIG. 109—Set No. 4—$\frac{3}{8}$ to 1" stock, 29 inches long; seven sizes, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1", with taps, dies and guides, complete in case..... 20 00
Diameter of dies in this set, $2\frac{3}{4}$" Price of adjustable tap wrench No. 4, if included in the above set, $4.00.

FIG. 111—Set No. 5—$\frac{1}{2}$ to 1" stock, 29 inches long; nine sizes, $\frac{1}{2}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1", with taps, dies and guides, complete in case..... 27 00
Diameter of dies in this set, $2\frac{3}{4}$". Price of two adjustable tap wrenches, Nos. 2 and 4, if included in the above set, $6.35.

FIG. 114—Set No. 7—$\frac{5}{8}$ to $1\frac{1}{4}$" stock, 35 inches long; nine sizes, $\frac{5}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$", with taps, dies and guides, complete in case..... 30 00
Diameter of dies in this set, $2\frac{3}{4}$".

FIG. 119—Set No. 10—$\frac{1}{2}$ to $1\frac{1}{4}$", two stocks, one 22 inches long, and one 35 inches long; eleven sizes, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$", with taps, dies and guides, complete in case..... 36 00
Diameter of dies in this set, $\frac{7}{8}$", and under $2\frac{1}{16}$"; diameter of dies in this set, $\frac{1}{2}$ and over $2\frac{3}{4}$".

Price List of Stocks, Dies and Taps for Green River Plates.

Size	$\frac{1}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	15	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Taps	$0 45	$0 45	$0 50	$0 50	$0 60	$0 75	$0 80	$0 80	$0 90	$1 00	$1 20	$1 40	$1 60	$1 80	$2 00	$2 25	$2 60
Dies	1 25	1 25	1 25	1 50	1 50	1 75	1 75	1 75	1 75	2 00	2 00	2 00	3 00	3 00	3 00	3 75	4 50

Stocks No. 1, $1.50; 1½, 1½, 4, 5, $2.00 each. No. 7, $4.00 each. Guides, all sizes, 25 cents each.

LIGHTNING FULL MOUNTED SCREW PLATES FOR BOLTS.

Instead of having but a single stock to a set of several dies, each die is furnished complete with its own stock of suitable size and weight. The time and trouble in fitting and changing dies for each occasion is saved. Several sizes out of the same set may be in use at the same time.

All of these sets are furnished with taps and dies $\frac{1}{32}$ oversize, and with V threads.

FIG. 220—Set AAA—$\frac{1}{4}$ to $\frac{1}{2}$". A stock to each die. Five sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$" taps, dies and stocks. Complete, in case..... $11 00

FIG. 222—Set BB—$\frac{1}{4}$ to $\frac{1}{2}$". A stock to each die. Seven sizes, $\frac{1}{4}$, $\frac{9}{32}$, $\frac{5}{16}$, $\frac{11}{32}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$" taps, dies and stocks. Complete, in case..... 16 00

FIG. 224—Set CE—$\frac{1}{2}$ to 1". A stock to each die. Five sizes, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1" taps, dies and stocks. Complete, in case 18 50

FIG. 226—Set CC—$\frac{1}{2}$ to 1". A stock to each die. Seven sizes, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{7}{8}$, 1" taps, dies and stocks. Complete, in case..... 22 00

FIG. 228—Set CCC—$\frac{1}{4}$ to 1". A stock to each die. Nine sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1" taps, dies and stocks. Complete, in case..... 25 50

Prices of Stocks, Dies and Taps, for Lightning Full Mounted Sets, Separately.

Size	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1
Stocks	$0 50	50	55	60	70	80	85	90	90	1 10	1 10	1 25	1 25
Dies	1 00	1 00	1 15	1 30	1 50	1 75	1 90	2 10	2 35	2 60	3 00	3 40	3 75
Taps	45	50	55	60	70	80	90	1 05	1 20	1 40	1 60	1 80	2 00

MACHINISTS' SETS LIGHTNING SCREW PLATES, No. 0.

FIG. 162—Set No. 0—With stock, tap wrench (fitting in stock), and thirty sizes taps, dies and guides. Usual assortment, $\frac{1}{4}$, $\frac{9}{32}$, $\frac{5}{16}$, $\frac{11}{32}$, $\frac{3}{8}$, $\frac{13}{32}$, $\frac{7}{16}$, $\frac{15}{32}$, $\frac{1}{2}$, $\frac{17}{32}$, $\frac{9}{16}$, $\frac{19}{32}$, $\frac{5}{8}$, $\frac{21}{32}$, $\frac{11}{16}$, $\frac{23}{32}$, $\frac{3}{4}$", and screw gauge sizes, Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16. Stock, 6 inches long; diameter of dies, $\frac{7}{8}$ inch. Price, complete, in case..... $26 00

Set No. 0—With stock, tap wrench (fitting in stock), and five sizes taps, dies and guides. Usual assortments, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, or screw gauge sizes, 4, 6, 8, 10, 12. Stock, 6 inches long; diameter of dies, $\frac{7}{8}$ inch. Price, complete, in case (either set)..... 5 50

Set No. 0—With stock, tap wrench (fitting in stock), and seven sizes taps, dies and guides. Usual assortments, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, or screw gauge sizes, 4, 6, 8, 10, 12, 14, 16. Stock, 6 inches long; diameter dies, $\frac{7}{8}$ inch. Price, complete, in case (either set)..... 7 00

FIG. 154—Set No. 0—With stock, tap wrench (fitting in stock), and ten sizes taps, dies and guides. Usual assortments, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$, $\frac{13}{16}$, $\frac{7}{8}$, or an equal number of screw gauge sizes. Stock, 6 inches long; diameter of dies, $\frac{7}{8}$ inch. Price, complete, in case..... 9 75

FIG. 158—Set No. 0—With stock, tap wrench (fitting in stock), and fifteen sizes taps, dies and guides. Usual assortments, $\frac{1}{4}$, $\frac{9}{32}$, $\frac{5}{16}$, $\frac{11}{32}$, $\frac{3}{8}$, $\frac{13}{32}$, $\frac{7}{16}$, $\frac{15}{32}$, $\frac{1}{2}$, $\frac{17}{32}$, $\frac{9}{16}$, $\frac{19}{32}$, $\frac{5}{8}$, $\frac{21}{32}$, $\frac{11}{16}$, $\frac{23}{32}$, $\frac{3}{4}$, or an equal number of screw gauge sizes. Stock, 6 inches long; diameter of dies, $\frac{7}{8}$ inch. Price, complete, in case... 13 75

BLACKSMITHS' STOCKS AND DIES.

(All Blacksmith Stocks and Dies cut ¼ Large.)

No.	Inches to Inch				Inches to Inch		Taps	Dies	Each.
1	Cuts	2	1	R. H.;	2	1 L. H.	8	1	$60 00
2.	"	2	7/8	"	.....	"	8	4	60 00
3.	"	1¾	7/8	"	1¾	7/8 "	8	4	45 00
4.	"	1¾	7/8	"	.....	"	8	4	45 00
5.	"	1½	3/4	"	1½	3/4 "	8	4	35 00
5½.	"	1½	3/4	"	.....	"	8	4	35 00
7.	"	1½	3/4	"	1¼	5/8 "	6	3	12 00
9.	"	1¼	5/8	"	.....	"	6	3	12 00
17.	"	1	1/2	"	1	3/4 "	6	3	9 00

No.	Inches to Inch				Inches to Inch		Taps	Dies	Each.
19	Cuts	1	3/8	R. H.,	.....	L. H	6	3	$9 00
25.	"	3/4	3/8	"	7/8	1/4 "	6	3	6 50
27.	"	3/4	3/8	"	.....	"	6	3	6 50
45.	"	5/8	1/4	"	5/8	1/4 "	6	3	5 50
47.	"	5/8	1/4	"	.....	"	6	3	5 50
49.	"	5/8	1/4	"	1/2	1/4 "	6	3	4 50
51.	"	5/8	1/4	"	.....	"	6	3	4 50
60.	"	1/2	1/4	"	.....	"	6	4	6 50

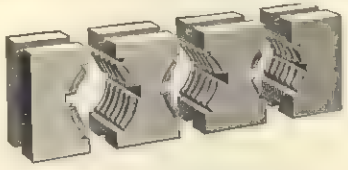
All above stocks and dies are style of cut at top of page

This cut illustrates the following sizes:

No.	Inches to Inch				Inches to Inch		Taps	Dies.	Each
6.	Cuts	1¼	1	R. H.;	1¼	1 L. H.	4	2	$20 00
11.	"	1¼	5/8	"	1¼	5/8 "	4	3	10 00
15.	"	1¼	5/8	"	.....	"	5	3	10 00
21.	"	1	1/2	"	1	3/4 "	4	3	6 00
23.	"	1	1/2	"	"	"	3	3	5 00
32.	"	3/4	1/2	"	3/4	1/2 "	4	4	5 00
33.	"	3/4	1/2	"	3/4	1/2 "	2	2	4 00

No.	Inches to Inch.				Inches to Inch		Taps.	Dies	Each
34.	Cuts	3/4	1/4	R. H.;	.....	..... L. H.	3	3	$4 50
35.	"	3/4	3/8	"	.....	"	2	2	4 00
37.	"	5/8	1/4	"	.....	"	6	3	4 25
38.	"	5/8	1/4	"	5/8	1/4 "	6	3	4 50
41.	"	1/2	1/4	"	"	"	6	3	3 25
42.	"	1/2	1/4	"	1/2	1/4 "	6	3	3 00
58.	"	1/4	1/4	"	.....	"	4	4	2 75

EXTRA DIES FOR BLACKSMITHS' STOCKS.



For No. 1 or 2 Stock, per Full Set	$12 00
For No. 3 or 4 " " "	10 00
For No. 5 or 5½ " " "	8 00
For No. 6 " " "	6 00
For No. 7 or 9 " " "	3 50
For No. 11 or 15 " " "	3 00
For No. 17 or 19 " " "	2 50
For No. 21 or 23 " " "	2 00
For No. 25, 27, 32 Stock	$2 25
For No. 33 "	1 50
For No. 34 "	2 00
For No. 35, 37, 38, 41, 42 Stock	1 50
For No. 45 or 47 "	2 25
For No. 49 or 51 "	2 00
For No. 58 "	1 50
For No. 60 "	3 00

BLACKSMITHS' IMPROVED TAPER TAPS.

Made of the finest English steel carefully relieved, handsomely finished, and made to cut free and clean.

Size	No. of Threads to Inch	Taps in Each Box	Price, Each	Size	No. of Threads to Inch	Taps in Each Box	Price, Each.
1/4	18, 20, 22, 24 and 26	6	$0 30	5/8	10, 11, 12 and 14	6	$0 50
5/16	16, 18, 20 and 22	6	30	5/8	8, 9, 10 and 12	6	65
3/8	12, 14, 16 and 18	6	35	7/8	9 and 10	4	90
7/16	12, 14, 16 and 18	6	40	1	7, 8 and 9	2	1 25
1/2	12, 14 and 16	6	40	1 1/4	6, 7, 8 and 9	2	1 75
9/16	12 and 14	6	50	1 1/2	6, 7 and 8	2	3 00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SCREW PLATES.

"GREEN RIVER."

Fig. 519.

SET No. 1 ¼.—$\frac{1}{16}$ to $\frac{1}{2}$ inch. Stock 22 inches long, 6 sizes, $\frac{1}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch Taps, Dies and Guides.

Complete, in case.....$11.00
Complete, with Adjustable Tap Wrench.....13.35

Diameter of Dies in this Set, 2 $\frac{3}{16}$ inch.

Fig. 520.

SET No. 1½.—¼ to ¾ inch with Adjustable Tap Wrench No. 3. 7 sizes, ¼, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, ½, $\frac{5}{8}$, ¾ inch Taps, Dies and Guides. Stock 22 inches long.

Complete, in case.....$13.00
Complete, with Adjustable Wrench.....16 00

Fig. 521.

SET No. 4.—$\frac{3}{8}$ to 1 inch, with Adjustable Tap Wrench No. 4. 7 sizes, $\frac{3}{8}$, $\frac{7}{16}$, ½, $\frac{5}{8}$, ¾, $\frac{7}{8}$ 1 inch Taps, Dies and Guides. Stock 29 inches long.

Complete, in case.....$20.00
Complete, with Adjustable Tap Wrench No. 4.....24.00

SCREW PLATES.

"GREEN RIVER."

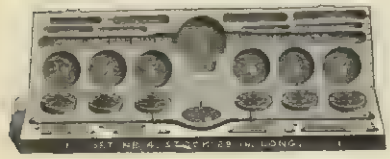
Fig. 522.

SET No. 3. ¼ to 1 inch. Stock 29 inches long. 5 sizes ¼, ⅝, ¾, ⅞, 1 inch Taps, Dies, and Guides.
Complete, in case $17.00
With Adjustable Tap Wrench, size No. 4 21.00
Diameter of Dies in this set 2¾ inch.

Fig. 525.

SET. No. 6. ¼ to 1¼ inch. Stock 35 inches long. 7 sizes, ¼, ⅝, ¾, ⅞, 1, 1⅛, 1¼ inch Taps, Dies and Guides.
Complete, in case..... $26 00
Diameter of Dies in this set 2¾ inch.

Fig. 528.

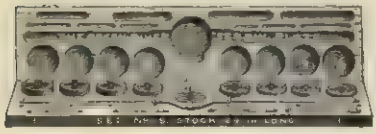


SET No. 4. ⅜ to 1 inch. Stock 29 inches long. 7 sizes, ⅜, ½, ⅝, ¾, ⅞, 1 inch Taps, Dies and Guides.
Complete, in case $20 00
With Adjustable Tap Wrench, size No. 4 24.00
Diameter of Dies in this set 2¾ inch.

Fig. 526.

SET No. 7. ⅜ to 1¼ inch. Stock 35 inches long. 9 sizes, ⅜, ½, ⅝, ¾, ⅞, 1, 1⅛, 1¼ inch Taps Dies and Guides.
Complete, in case..... $30 00
Diameter of Dies in this set 2¾ inch.

Fig. 524.



SET No. 5. ¼ to 1 inch. Stock 29 inches long. 9 sizes, ¼, ⅜, ½, ⅝, ¾, ⅞, 1 inch Taps, Dies and Guides.
Complete, in case..... $23 00
With Adjustable Wrench..... 29.35
Diameter of Dies in this set 2¾ inches.

Fig. 527.

SET No. 8. ¼ to 1¼ inch. Stock 35 inches long. 11 sizes, ¼, ⅜, ½, ⅝, ¾, ⅞, 1, 1⅛, 1¼ inch Taps, Dies and Guides.
Complete, in case $34 00
Diameter of Dies in this set 2¾ inch.

Will send above sets ½ oversize, V thread, unless otherwise ordered.

Exact sizes V, U. S. Standard Franklin Institute or Whitworth form of thread at regular prices when ordered

SCREW PLATES.

"GREEN RIVER."

Fig. 528.

Set No. 9.—$\frac{1}{4}$ to 1 $\frac{1}{2}$ inch. Stock, 53 inches long, 6 sizes, $\frac{1}{4}$, 1, 1$\frac{1}{4}$, 1$\frac{1}{4}$, 1$\frac{3}{8}$, 1$\frac{1}{2}$ inch. Taps, Dies and Guides.
Complete, in case.....$45.00
Diameter of Dies in this set $\frac{7}{16}$ inch.
Adjustable Tap Wrench, size No. 5 .....$8.00

Fig. 529.

Set No. 13.—$\frac{1}{4}$ to 1 inch, 9 sizes Two stocks, one 22 inches long, and one 29 inches long and $\frac{1}{4}$, $\frac{7}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch Taps, Dies and Guides.
Complete, in case.....$25.30
" " with adjustable Tap Wrench..... 31.35
Diameter of Dies in this set $\frac{7}{16}$ inch and under 2$\frac{5}{16}$ inch.
Diameter of Dies in this set $\frac{1}{4}$ inch and over 2$\frac{1}{4}$ inch.

Fig. 530.

Set No. 16.—$\frac{1}{4}$ to 1$\frac{1}{4}$ inch, 11 sizes Two stocks, one 22 inches long and one 35 inches long, and $\frac{1}{4}$, $\frac{7}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, 1$\frac{1}{8}$, 1$\frac{1}{4}$ inch Taps, Dies and Guides.
Complete, in case..... $36.00
Diameter of Dies in this set $\frac{7}{16}$ and under 2$\frac{3}{16}$ inch,
Diameter of Dies in this set $\frac{1}{2}$ and over 2$\frac{1}{4}$ inch.

Will send above sets $\frac{1}{32}$ oversize V thread, unless otherwise ordered.

Exact sizes V, U. S. Standard Franklin Institute or Whitworth form of thread at regular prices when ordered.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA'S Patent Progress

STOCKS, COLLETS AND GUIDES.

For Lightning and Green River Screw Plates.

Fig. 531.

STOCKS. Patent Elastic Stock.

For Lightning Screw Plates	No. 0	$1.00
" " "	Nos. A and A 1	1.50
" " "	" AA, B, C, K, and L	2.00
" " "	No. D	7.00
" " "	" D. and B, small stock	2.00
" " "	" D. and B, large "	7.00
" Green River "	" 1	1.50
" " "	Nos. 1¼, 1½, 2, 3, 4, 5 and 13	2.00
" " "	Nos. 6, 7 and 8	4.00
" " "	No. 9	6.00
" " "	" 16, small stock	2.00
" " "	" 16, large stock	4.00
" " "	" 25, small stock	2.00
" " "	" 25, large stock	6.00
" Lightning Pipe Plates	No. C	3.50
" " "	" D	7.00
" " "	" E	20.00

For Full Mounted Screw Plates:

Sizes,	¼,	5/16,	⅜,	7/16,	½,	9/16,	⅝,	11/16,	¾,	13/16,	⅞,	15/16,	1 in.
Prices,	50c.	50c.	55c	60c.	70c.	80c.	85c	90c.	90.	1.10,	1.10	1.25	1.25

COLLETS.

For Lightning Screw Plates, Nos. AA, B, C, K, L and ¼ to ¾ in. sizes in D. & B. each	$0 50
For Lightning Screw Plates No. D and ⅞ to 1½ in. sizes in D. & B. each	1.00
For Lightning Pipe Plate E	2.50

GUIDES.

For Lightning Screw Plates,	No. 0, each	$0 15
" " "	Nos. A and A 1, each	.20
" Green River "	No. 1	.20
" " "	Nos. 1¼, 1½, 2, 3, 4, 5, 6, 7, 8, 9, 13, 16 and 25.	25
" Lightning Pipe Plates,	No. C	.25
" " "	No. D	.50
" " "	No. E	1.00

Prices of Collets without Dies.

With 2 and 2¼ in. shanks, holding dies 1 in and under	$0.90
With 2⅜ and 3 in. shanks, holding dies 1⅛ in. and under	1.15
With 2⅜ and 3 in. shanks, holding dies 1¼ to 1½ inch	1.50
With 2¾ and 3 in. shanks, holding dies 1⅝ to 2 inch	2.50

Fig. 532

Machine Die in Collet for use in Lathe Chucks or Bolt Cutters

Fig. 533

Fig. 534

STEEL COLLETS—For use in Screw Machines.

The smaller of these collets takes all dies in our No. 0 Sets, viz:—1/16 to 3/8 inch, or Screw Gauge sizes Nos. 2 to 18.
Price, each, without dies $0.50

The larger collet takes all dies in our A Sets, viz.—3/16 to 7/16 in., or Screw Gauge sizes Nos. 10 to 24.
Price, each, without dies. 75c.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

UPRIGHT HAND DRILLS.

GREEN RIVER.

No. 22.

This Machine will drill as large as 1 inch. Drills to centre of 15 inch circle. Diameter of balance wheel, 19 inches.

Drill bits to fit this machine should have ½ inch round shanks.

Price with regular straight table	$20.00
Price, with swinging table	21.00
Fitted with pulley for belt, extra	5.00
Countershaft, extra	12.00
Wheel-Holding Attachment, extra	7.50
Vise with right and left hand screw, extra	10.00
Drill Chuck, including shank, to hold straight shank drills up to ½ inch, extra	7.50

Fig. 892.

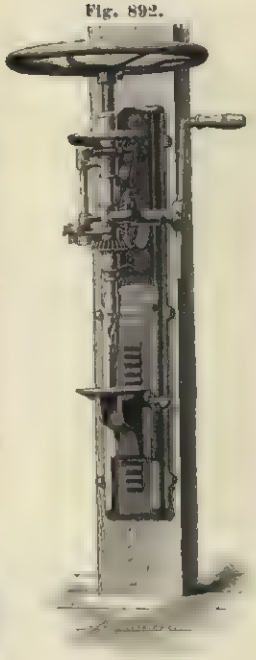


Fig. 893.

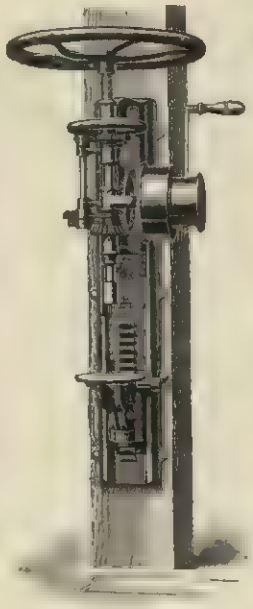
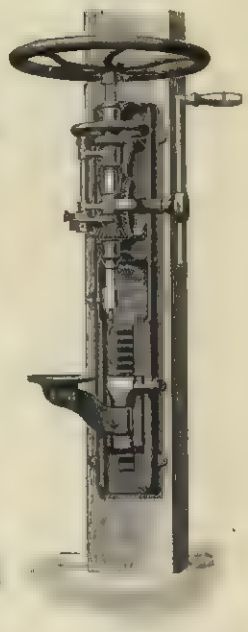


Fig. 894.

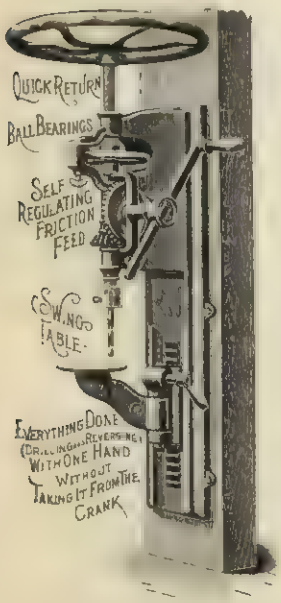


No. 22. With Regular Straight Table.

No. 22. With Pulley for Power and Swinging Table.

No. 22 With Swinging Table.

Fig. 895.


QUICK RETURN
BALL BEARINGS
SELF REGULATING FRICTION FEED
SWING TABLE
EVERYTHING DONE (DRILLING AND REVERSING) WITH ONE HAND WITHOUT TAKING IT FROM THE CRANK

A1. New Green River Drilling Machine.

NEW GREEN RIVER DRILLING MACHINE.

The Feed Screw is cut in the solid steel of the spindle, the pressure of the work coming in but one place. By this means half the friction is saved, and the remainder is reduced to almost nothing by the use of **Anti-Friction Ball Bearings**, the easiest and most reliable bearing in the world.

The Feed, which is started by a slight pressure of the thumb screw, is perfectly steady and continuous (not jerky) and regulates itself according to the material being drilled. For instance: being set so as to cut a good chip in wrought iron or steel, it cuts faster through cast iron and bores rapidly through wood,—all without being readjusted.

Again, the point of the drill is lifted swiftly out of the finished hole by simply turning the crank backwards,—a great convenience and saving of time, the left hand being always free.

The bedpiece is of iron and usually stiff and solid. The headstock is locked together in front of the spindle, preventing any possible springing and binding.

The Machine is thoroughly and accurately built throughout, the gears keyed in place, and everything made to stand long service. Hole in spindle is ⅝ inch in diameter. Diameter of balance-wheel 19 inches. Drills to centre of 15 inch circle. Weight boxed, 175 pounds.

PRICE.....$15.00.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

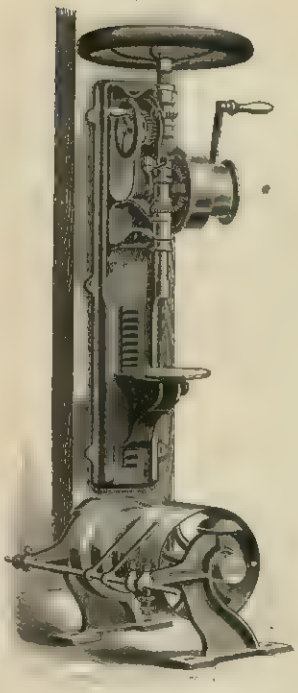
UPRIGHT HAND DRILLS.

GREEN RIVER.

Fig. 896.

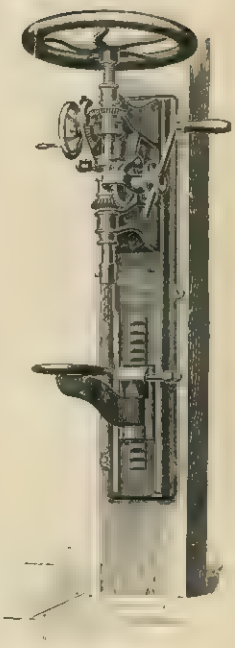
No. 2 With Regular, Straight Table.

Fig. 897.



No. 2 With Pulley, Countershaft, and Regular, Straight Table.

Fig. 898.



No. 2 With Swinging Table.

No. 2.

This machine will drill as large as 1 inch.

Drill Bits should have ½ inch shank. Diameter of balance wheel, 19 inches Drills to center of 15 inch circle

Price, with regular straight table	$28.00
" with swinging table	30.00
Fitted with Pulley for belt, extra	5.00
Countershaft, extra	12.00
Wheel-Holding Attachment	7.50
Vise, with right and left screw, extra	10.00
Drill Chuck, including shank, to hold straight shank drills up to ½ inch, extra	7.50

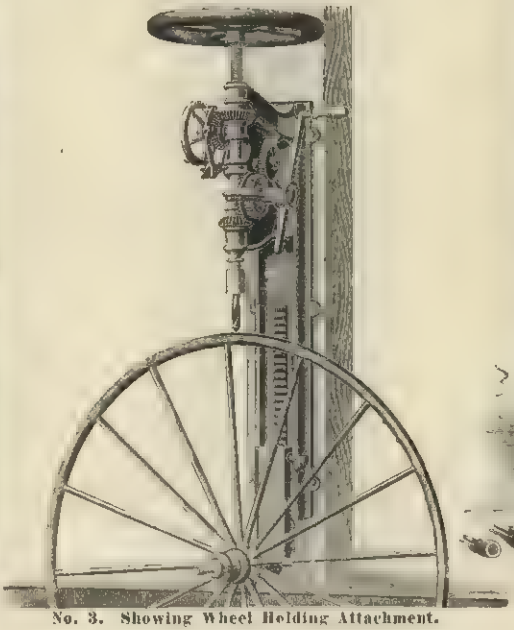
UPRIGHT HAND DRILLS.

GREEN RIVER.

Fig. 899.

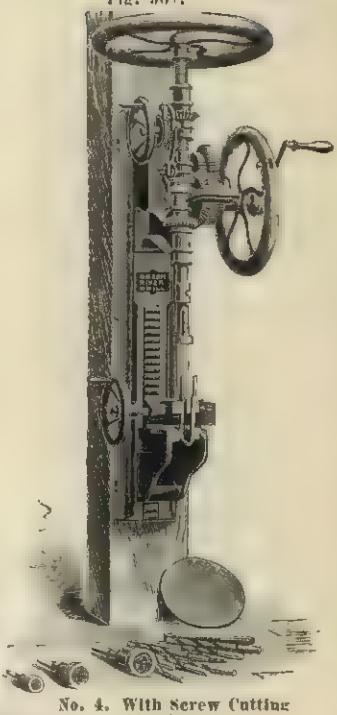
No. 3. With Swinging Table.

Fig. 900.



No. 3. Showing Wheel Holding Attachment.

Fig. 901.



No. 4. With Screw Cutting Attachment.

No. 3.

Will drill as large as 1 inch Drill Bits should have ½ inch shanks. Diameter of balance-wheel 22 inches Drills to centre of 20 inch circle. Weight 200 pounds.

Price, complete (regular straight table)	$43.00
Price, with swinging table	45.25
Fitted with pulley for belt, if desired, extra	5.00
Countershaft, extra	12.00
Wheel-Holding Attachment, extra	7.50
Tap Chuck, extra	8.00
Vise, with right and left screw, extra	10.00
Drill Chuck, including shank, to hold straight shank Drills up to ⅜ inch, extra	7.50

No. 4.

We recommend this machine for repair shops and others having similar work to do. It is a very good drill, stiff, well made, and capable of doing a great variety of work. We fit it for hand or power use, can supply extra screw-cutting attachments for threading short bolts and tapping nuts, and also supply either style of table, viz:—straight or swinging.

It will drill as large as 1⅛ inch. Diameter of balance-wheel, 20 inches. Drills to centre of 20 inch circle Weight, 250 lbs

It is speeded for small work when crank is applied For heavy work, and for screw cutting, the crank is placed in the wheel at the side of the machine, which multiplies the power nearly three times.

Price, with regular straight table	$70.00	Wheel holding attachment, extra	$7.50
Price, with swinging table	72.25	Screw cutting attachments supplied with this machine,	
Fitted with pulley for power, extra	7.50	consisting of Tap-Chuck, and Vise and Taps, Dies and	
Countershaft, extra	12.00	Collets, ¾, ⅝, ⅞, ½, ⅜, ¾ in's. for bolts and nuts,	10.00

The screw cutting attachment is not intended to be used by power. Drills to fit this machine should have ½ round shanks.

QUEEN CITY SUPPLY CO. ORIGINATORS

PORTABLE DRILLS.

COMBINED WITH STOW PORTABLE SHAFT.

Fig. 891.

Complete Portable Drill.

Price List of Complete Portable Drill, with Cotton Braided Rope.

No.	Flexible Shaft.	Drill Press.	Breast Drill.	Countershaft.	Roundabout.	100 feet cotton Braided Rope	3 pairs Couplings.	Drill Rest and Supports.	Total.	Capacity
3	$30 00		$12 00	$10 00	$10 00	$ 5 00	$1 50		$68 50	Drills to $\frac{1}{4}$ inch
3	30.00	$20.00		10.00	10.00	5.00	1.50		76.50	" $\frac{1}{4}$ "
4	40.00	20.00		20 00	17.00	7 00	1.50		105 50	" $\frac{5}{16}$ "
5	50 00	25 00		20 00	20 00	10 00	2 25	$16 00	143 25	" $\frac{3}{8}$ "
6	60 00	25 00		20 00	20 00	10 00	2 25	16 00	153 25	" $\frac{1}{2}$ "
8	80 00	30 00	Pedestal Drill.	20 00	20 00	12 00	3 00	18 00	183 00	" $\frac{1}{2}$ "
9	100 00	30.00		22.00	20.00	12.00	3.00	18.00	205 00	" 2 "
8	80.00		55.00	20.00	20.00	12.00	3.00	18.00	208 00	" $2\frac{1}{2}$ "
9	100.00		55.00	22.00	20.00	12.00	3.00	18.00	240 00	" 3 "

Price List of Complete Portable Drill, with Rawhide Belt.

No.	Flexible Shaft.	Drill Press.	Breast Drill.	Countershaft.	Roundabout.	100 feet Rawhide Belt.	3 pairs Couplings.	Drill Rest and Supports.	Total.	Capacity
3	$30 00		$12 00	$10 00	$10 00	$20 00	$0.75		$82.75	Drills to $\frac{1}{4}$ inch.
3	30 00	$20.00		10.00	10.00	20.00	.75		90.75	" $\frac{1}{4}$ "
4	40.00	20.00		20 00	17 00	25 00	1.00		123 00	" $\frac{5}{16}$ "
5	50 00	25 00		20 00	20 00	30 00	1 50	$16 00	162 50	" $\frac{3}{8}$ "
6	60 00	25 00		20 00	20 00	30 00	1 50	16 00	172 50	" $\frac{1}{2}$ "
8	80 00	30 00	Pedestal Drill.	20 00	20 00	38 00	2 25	18 00	208 25	" $\frac{1}{2}$ "
9	100 00	30 00		22 00	20 00	45 00	3 00	18 00	238 00	" 2 "
8	80 00		55 00	20 00	20 00	38 00	2 25	18 00	233 25	" $2\frac{1}{2}$ "
9	100 00		55 00	22 00	20 00	45 00	3 00	18 00	263 00	" 3 "

Hall Lamps.

To sell these Lamps on sight, trim them with Polka Dot Globes.

Hall Lamps from the Cheapest to the Best.

Nos. 9181 and 9182.

No. D9304.

Nos. 9178, 9 76 9179

NO.	DESCRIPTION.	EACH
9181	Hall Lamp, Polished Brass, with No. 2 Embossed Sun Burner and Chimney, 6x9 inch Crystal Etched Cylinder complete,	$4 15
9182	Same as No. 9181, but with Pink, Blue, Amber Polka Dot, Blue Twist or Pink Diamond Cylinder,	4 15
9176	Same as No. 9181, but larger, with No. 2 Embossed Sun Burner and Chimney, 6½x10 Crystal Etched Globe,	4 65
9177	Same as No. 9176, but with Pink, Blue, Amber, Polka Dot, Blue Twist or Pink Diamond Cylinder,	4 65
9179	Same as No. 9176, but with Ruby Cylinder,	5 10
D9304	Hall Lamp, Polished Bronze with Glass Fount, No. 1 Burner and Chimney, Ruby or Pink Ribbed Globe, complete as shown,	2 30

ALL THE ABOVE 36 INCHES IN LENGTH.

Hall Lamps.

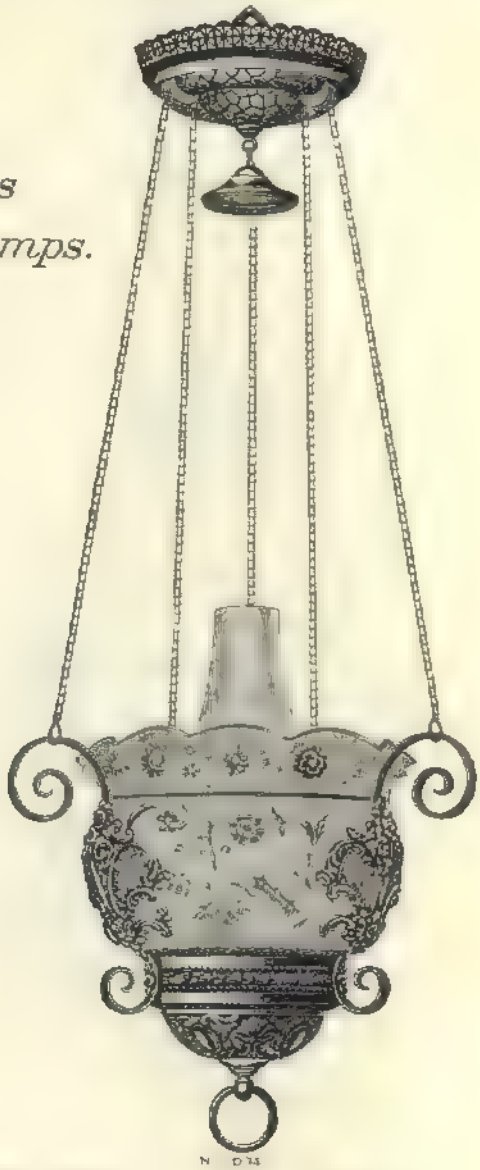
Specify color of Globe wanted. We recommend Polka Dot Style

NO.	DESCRIPTION	EACH
D971	Hall Lamp, Polished Brass with Glass Fount, No. 1 Burner and Chimney, Pink Ruled Globe complete as shown,	$2 50
9167	Hall Lamps, Polished Bronze, with No. 1 B. & H. Metal Central Draft Fount and Chimney, 6x9 inch Crystal Etched Cylinder complete,	5 85
9168	Same as No. 9167, but with 6x9 Pink, Blue or Amber Polka Dot, Blue Twist or Pink Diamond Cylinder,	5 50
9161	Hall Lamp, Polished Bronze, with No. 1 B. & H. Metal Central Draft Fount and Chimney, 7x10 inch Crystal Etched Cylinder, complete,	6 50
9162	Same as No. 9161, but with 7x10 Pink, Blue or Amber Polka Dot, Pink Diamond or Blue Twist Cylinder,	6 50

LENGTH, 36 INCHES. FOR CYLINDERS TO FIT THESE LAMPS SEE COMPLETE LINE AT BACK OF CATALOGUE.

Brass Hall Lamps.

Nos. 962 and 963.



No. D941.

No.	DESCRIPTION	Each
962	Hall Lamp, all Brass, Handsome Openwork, Selected Beveled Glass, with No. 1 Embossed Burner and Chimney, complete as shown,	$ 9 25
963	Same as No. 962, but with Ruby Beveled Glass,	10 20
D941	Hall Lamp, Polished Bronze Metal, with Cast Ornaments, Crystal Etched Globe No. 2 Embossed Burner and Chimney, as shown,	7 40

Hall Lamps.

No 9186 ROCHESTER

No D946

NO	DESCRIPTION	EACH
9186	Hall Lamp, Rochester Central Draft Fount, Antique Brass Finish, Fine Colored Etched Glass, complete as shown,	$17 00
D946	Hall Lamp, Polished Bronze Metal, 2 Ruby Etched Glass Sides, 2 Enameled Sides 7x7, No. 2 Embossed Burner and Chimney, complete as shown,	6 50

No. 9186, Length 40 inches; No. D946, 34 inches.

QUEEN CITY SUPPLY CO. ORGANIZATION

JOYCE JACKS.

Sizes and Prices of Jacks Nos. 1 and 2, 3, 4 and 5, 6 and 7.

No.	Height of Jack when down Inches.	Rise of Bar. Inches.	Size of Bar. Square Inches.	Weight of Jack Pounds.	Capacity. Tons	Price Each
1	16	9	1¼	25	2	$10.00
2	19	11	1½	25	2	10 00
3	12	4	1½	28	4	10 00
4	23	14	1½	42	4	16.00
5	28¾	15	1¾	76	8	23.00
6	28	15	2	95	15	26 00
7	37½	25	2	118	15	30 00

Fig. 1593

Nos. 1 and 2

Fig. 1594

No. 4

Fig. 1595

Nos. 5, 6 and 7

Fig. 1596

No. 3

Fig. 1597

Compound Lever Jack.
Nos. 8 and 9.

For Truck Car and Locomotive and Wrecking work.

No. 8

Height of Jack when down	29 inches
Rise of Bar	14 "
Size of Bar—round	2 "
Weight of Jack	90 "
Capacity	12 tons.
Price	$35.00

No. 9

Height when down	29 inches
Rise of Bar	14 "
Size of Bar—round	2 in diam.
Weight of Jack	90 pounds
Capacity	12 tons.
Price	$35 00

Fig. 1598

Stone Yard Jack.

No.	Height when down Inches	Rise of Bar Inches	Size of Bar Inches	Weight Pounds	Capacity Tons	Price
2	19	11	1¼	25	2	$10 00
4	28	14	1½	42	4	16 00
5	28¾	15	1¾	75	8	23 00
6	28	15	2	95	15	26.00
7	37½	25	2	118	15	30 00
8	29	14	2	90	12	35 00

JOYCE JACKS.

The Screws of these Jacks are forged steel, and the nuts, lever, ratchet wheel and pawl are the best air furnace malleable iron. The pin on which the pawl pivots is steel. The thread on this and on all our Screw Jacks is our Standard Half Square and Half V, with square side to the load, making a bracket thread of great strength.

Fig. 1599

No. 13
With Forked Lever Ratchet.

Fig. 1600

No. 13
With Six Way Head.

Fig. 1601

No. 16
With Six Way Head.

Fig. 1602

No. 16.
With Forked Lever Ratchet.

Fig. 1603

No. 15

Fig. 1604

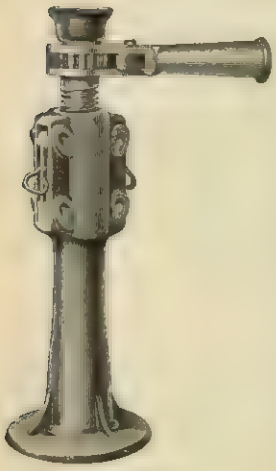
No. 18
With Ground Lift

SIZES AND PRICES DOUBLE MOVEMENT RATCHET SCREW JACKS.

No.	Height of Jack when down. Inches.	Rise of Screw Inches.	Diameter of Screw Inches.	Weight of Jack. Pounds.	Capacity. Tons.	Price, each. With Six Way Head.	Price, each With Forked Lever and Ratchet.
12	10	4	2	20	8	$8 00	$10.00
13	12	6	2	25	8	8.00	10 00
14	13	7	2	25	8	8 00	10.00
15	13	7	2	20	8	8 00	10.00
16	16	10	2	36	8	15.00	17.00
19	16	9	2¼	47	25	17 00	25.00
20	20	12	2½	55	25	22 00	30.00
21	24	16	2½	65	25	27.00	35.00
21½	36	24	2½	85	25	37.00	45.00
22	27	18	3	125	50	35 00	45.00
23	33	24	3	145	50	40 00	50 00

JOYCE JACKS.

Fig. 1605



Nos. 24 and 25

RAPID MOVING SCREW JACKS.

These Jacks are called Rapid Moving because the Screw, when the load is off, can be raised immediately to any desired point, and, when up, can be as quickly let down, thus saving the tedious operation of turning the screw up and down as in all other Screw Jacks.

The two Segmental Nuts are made of Gun Metal, and are supported on steel pins moving in angular slots so as to allow them to move in and out of gear; and in addition, when in gear the base of the nuts rests on the bottom of the mortise.

To raise the Screw to any desired height for the work, it is only necessary to lift it by taking hold of the lever; to lower it, take hold of one of the handles with the left hand, and inclining the Jack to an angle of about 45 degrees, with the other hand holding the Lever, let the Screw down.

The Frame, Lever, Ratchet Wheel, Cap and Pawl are made of malleable iron, and the Screw is forged steel.

Fig. 1606

No. 26—With Ground Lift

No. 24

For Narrow Gauge Locomotive Work.

Height of Jack when down	22 inches
Rise of Screw	11 "
Diameter of Screw	2 "
Weight of Jack	48 pounds
Capacity	8 tons.
Price, with Forked Lever Ratchet	$27.00
Price, with Spring Ratchet	35.00
Price, with Six Way Head	25.00

No. 25

For Locomotive Work.

Height of Jack when down	27 inches
Rise of Screw	15 "
Diameter of Screw	2½ "
Weight of Jack	90 ponnds
Capacity	25 tons.
Price, with Six Way Head	$40.00
Price, with Spring Ratchet	50.00
Price, with Forged Steel Ground Lift	60.00

No. 26

For Heavy Bridge Work.

Height of Jack when down	29 inches
Rise of Screw	14 "
Diameter of Screw	3 "
Weight of Jack	150 "
Weight of Ground Lift Bar	60 pounds
Capacity	50 tons.
Price, complete, with Ground Lift Bar	$90.00

No. 27

For Passenger Coach Work.

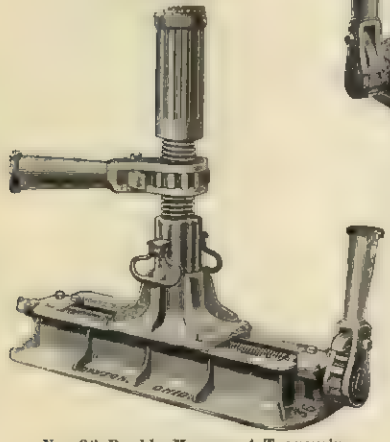
Height of Jack when down	36¼ inches
Rise of Screw	24 "
Diameter of Screw	2½ "
Weight of Jack	137 pounds
Capacity	25 tons.
Price, with Spring Ratchet	$65.00
Price, with Six Way Head	55.00

JOYCE JACKS.

Fig. 1607

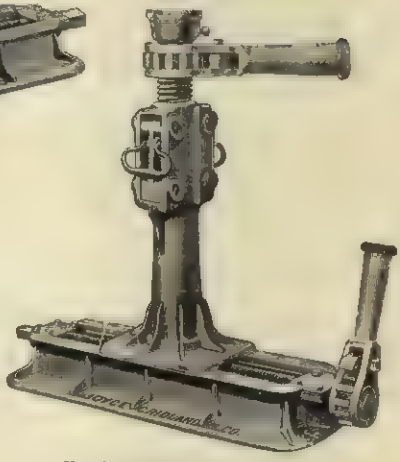
No. 87 Telescope Traversing Screw Jack.

Fig. 1608



No. 36 Double Movement Traversing Screw Jack.

Fig. 1609



No. 35 Rapid Moving Traversing Screw Jack.

No. 35

Cut No. 35 represents our Rapid Moving Traversing Screw Jack. It is made from tasty and neat patterns, designed with special attention to strength and durability. The materials used are Malleable Iron, Gun Metal Bronze and Forged Steel. It is adapted to Locomotive, Wrecking and Bridge Work.

Height of Jack when down	27 inches	Safe Elevation	10 inches
Horizontal Movement	15 "	Weight, complete	150 pounds
Capacity	25 tons.	Price	$75 00

No. 36

No. 36 is our Double Movement Traversing Screw Jack, suitable for Locomotive, Wrecking and Bridge Work This style can be made shorter when desired, in which case the safe elevation will be reduced by the amount it is shortened.

Height of Jack when down	23 inches	Weight of Jack	143 pounds
Safe Elevation	10 "	Capacity	25 tons
Horizontal Movement	15 "	Price	$63.00

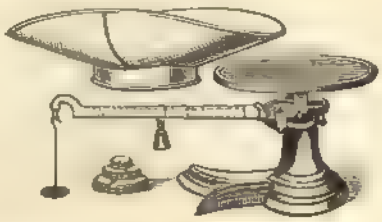
No. 37

No. 37 is our light Telescope Traversing Jack, having the advantage of a low Jack with a high lift The base is the same as we use for No. 35 The Telescope Screw is Gun Metal Bronze, and the interior Screw is Forged Steel.

Height of Jack when down	15 inches	Weight of Jack	120 pounds
Rise of Screw	10 "	Capacity	8 tons
Horizontal Movement	15 "	Price	$65.00

"Little Detective" Scales.

No. 6.



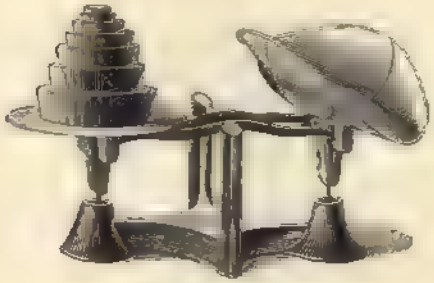
Nos. 2 and 3.

Capacity ¼ ounce to 25 pounds.

No.		Each	No.		Each
6.	Horn and Tin Scoop, . .	$3.25	2.	Platform and Tin Scoop, .	$3.50
			3.	Platform and Brass Scoop, . .	3.75

One in a Box.

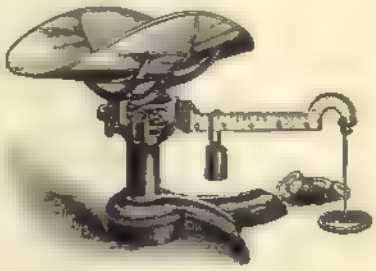
Tea Scale.



With 2 Platforms.

161. Capacity, 4 lbs., Tin Scoop, . 1.00

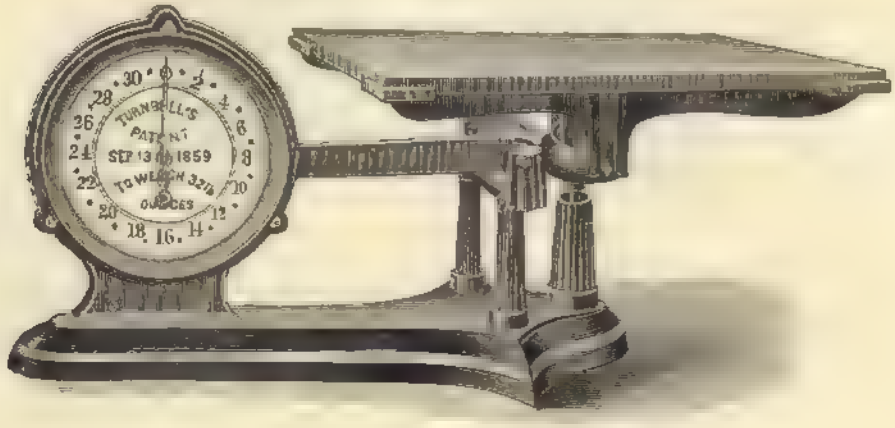
Family Scale.



Brass Beam, Steel Bearings.

4. Capacity, ¼ oz. to 4 lbs., Tin Scoop, 2.50

Turnbull's Market Scales.



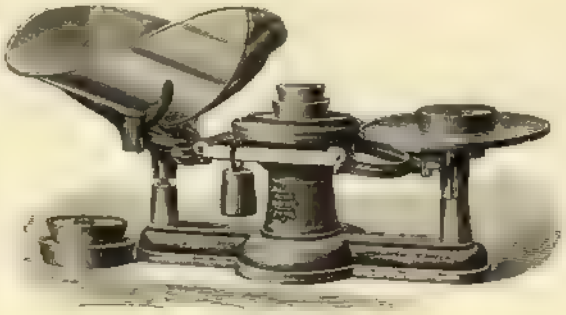
With Marble Slab and Glass Sash.

33. Capacity, 1 oz. to 33 lbs., ... 16.00
43. Capacity, 2 oz. to 60 lbs., ... 18.00

One in a Box.

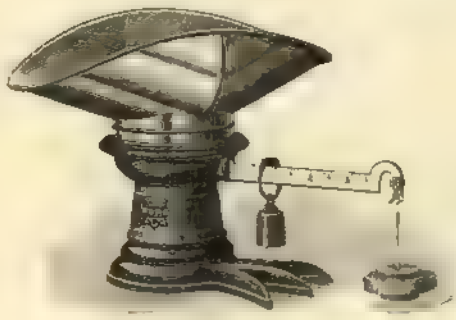
Howe Scales.

Even Balance Counter Scale.

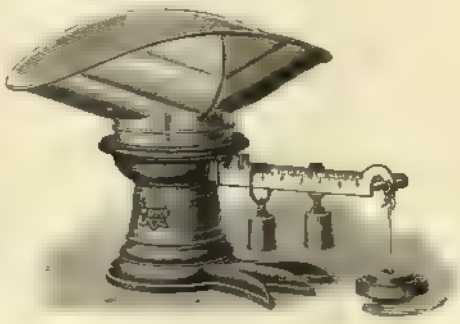


No.		Each.
396.	Capacity ⅛ ounce to 2 pounds, with Tin Scoop,	$5.75
392.	Capacity ⅛ ounce to 6 pounds, with Tin Scoop,	6.75
388.	Capacity ¼ ounce to 10 pounds, with Tin Scoop,	8.00
384.	Capacity ¼ ounce to 16 pounds, with Tin Scoop,	10.50
394.	Capacity ⅛ ounce to 2 pounds, with Brass Scoop,	6.25
390.	Capacity ⅛ ounce to 6 pounds, with Brass Scoop,	7.50
386.	Capacity ¼ ounce to 10 pounds, with Brass Scoop,	9.00
382.	Capacity ¼ ounce to 16 pounds, with Brass Scoop,	11.50
412.	Capacity ⅛ ounce to 2 pounds, with Brass Funnel Scoop,	7.25
410.	Capacity ⅛ ounce to 6 pounds, with Brass Funnel Scoop,	8.50
408.	Capacity ¼ ounce to 10 pounds, with Brass Funnel Scoop,	10.50
406.	Capacity ¼ ounce to 16 pounds, with Brass Funnel Scoop,	13.00

Grocer Counter Scale.



Single Beam.



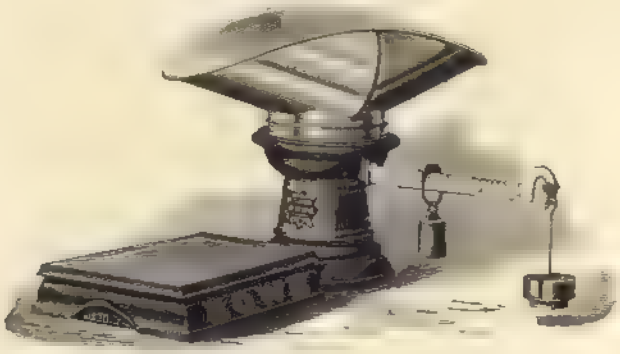
Double Beam.

350.	Capacity ¼ ounce to 10 pounds, with Tin Scoop, Single Beam,	8.00
331.	Capacity ½ ounce to 36 pounds, with Tin Scoop, Single Beam,	10.00
338.	Capacity ½ ounce to 62 pounds, with Tin Scoop, Single Beam,	12.00
352.	Capacity ¼ ounce to 10 pounds, with Brass Scoop, Single Beam,	9.00
333.	Capacity ½ ounce to 36 pounds, with Brass Scoop, Single Beam,	11.50
342.	Capacity ½ ounce to 62 pounds, with Brass Scoop, Single Beam,	13.50
335.	Capacity ½ ounce to 36 pounds, with Tin Scoop, Double Beam,	11.00
340.	Capacity ½ ounce to 62 pounds, with Tin Scoop, Double Beam,	13.00
337.	Capacity ½ ounce to 36 pounds, with Brass Scoop, Double Beam,	12.50
344.	Capacity ½ ounce to 62 pounds, with Brass Scoop, Double Beam,	14.50

One in a Box.

Howe Scales.

Union or Family Scale.

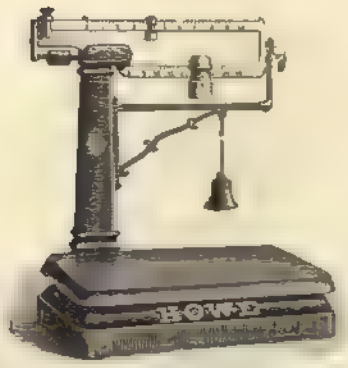


Capacity ½ ounce to 240 pounds. Platform 10 x 14 inches.

No.		Each
320.	Single Beam, Tin Scoop,	$14.00
324.	Single Beam, Brass Scoop,	15.00
322.	Double Beam, Tin Scoop,	15.00
326.	Double Beam, Brass Scoop,	16.00

One in a Box.

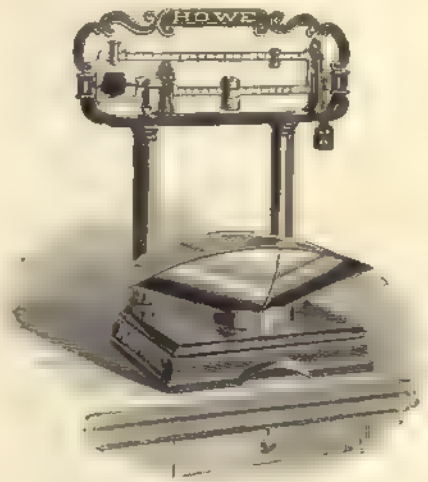
Acme Counter Scale.



Capacity 1 oz. to 100 lbs. Platform 12 x 12 inches.
Nickel Plated Beam.

		Each
810.	With Tin Scoop,	$17.50
812.	With Brass Scoop,	19.00
814.	Without Scoop,	16.00
815.	With Marble Platform,	17.50
817.	With Marble Platform and Brass Scoop,	20.50

Vermont Counter Scale.



Capacity 1 oz. to 200 lbs. Platform 15 x 12 inches.
Nickel Plated Beam. Beam Marked on Both Sides.

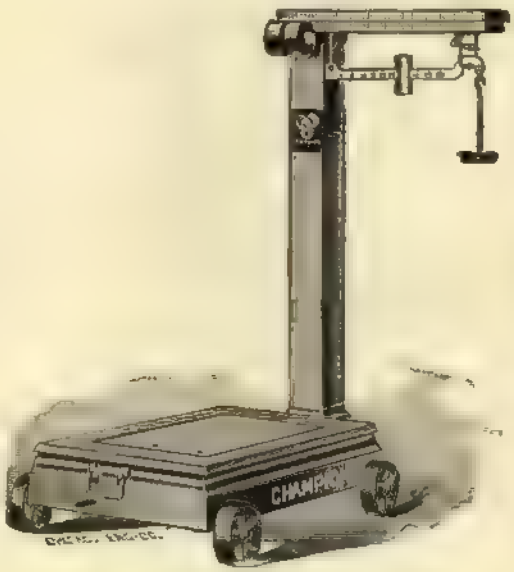
No		
593.	With Extra Large Tin Scoop,	24.00
594.	With Extra Large Brass Scoop,	25.00
597.	Without Scoop,	22.50
598.	With Marble Platform, without Scoop,	24.00

One in a Box.

Portable Platform Scales.

"Champion Standard."

Sliding Poise Beam.
These Scales are Carefully Sealed and Tested.

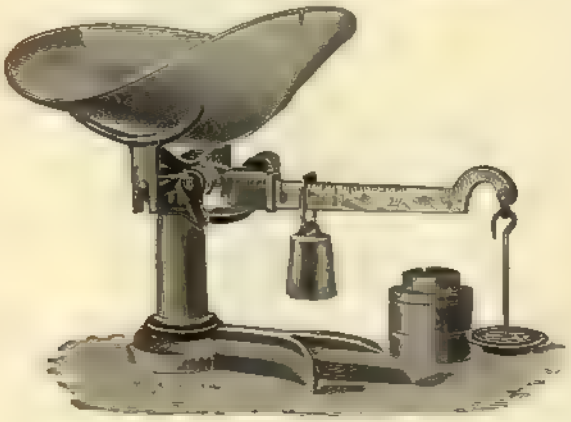


Late Improvements.
Are Carefully Boxed for Long Shipments.

The "Champion" Scale.

	Each.		Each
Capacity, 400 pounds,	$20 00	Capacity, 1000 pounds,	$28.00
Capacity, 600 pounds,	22.00	Capacity, 1200 pounds,	32.00
Capacity, 800 pounds,	24.00	Capacity, 1500 pounds,	36.00

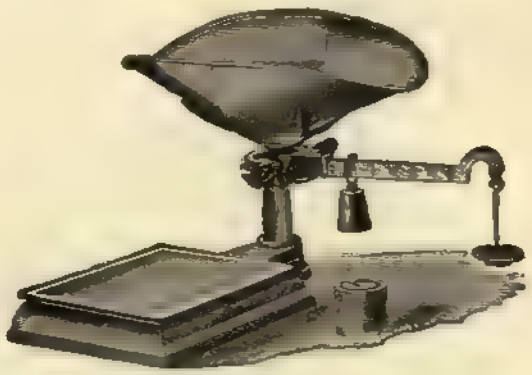
"Champion" Counter Scales.



Japanned and Baked, Bronze Stripe.
Capacity 25 pounds.

Tin Scoop with Horns,	4.50
Tin Scoop with Plate,	5.50

"Champion" Union Scales.



Japanned and Baked, Bronze Stripe.
Capacity 240 pounds.

Tin Scoop, Single Beam,	5.00
Tin Scoop, Double Beam,	7.00
Brass Scoop, Single Beam,	7.00
Brass Scoop, Double Beam,	8.00

One in a Box.

Hammers.

Maydole's Solid Crucible Steel.

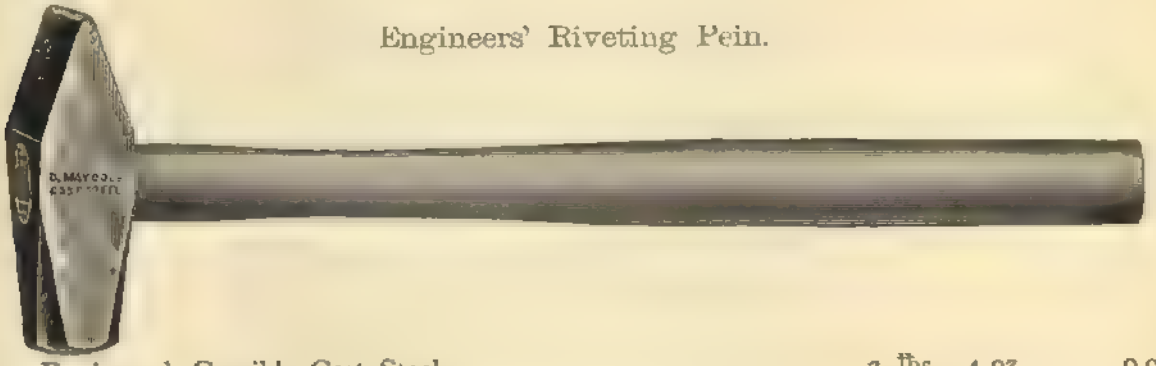
Horse Shoers' Turning.

No.			Per Dozen
313	Turning, Crucible Cast Steel, ...	2 lbs. 4 oz.,	$19.00

Riveting.

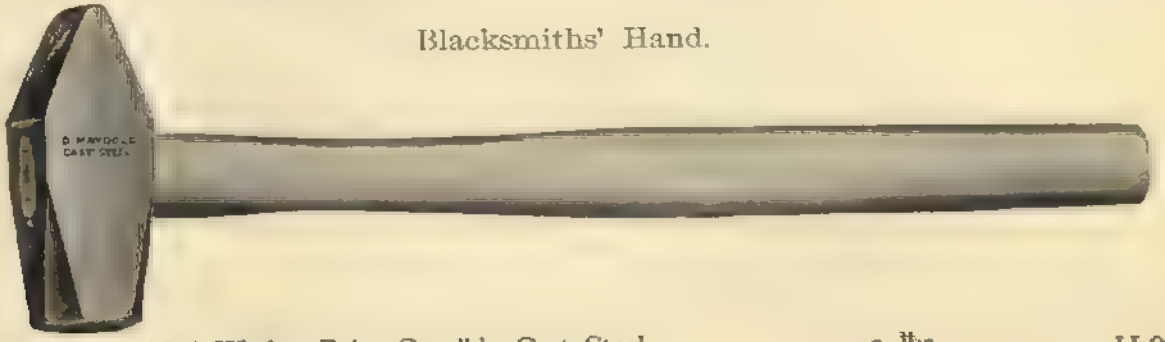
Nos.	40	41	42	43	44
Weighs,	1 lb. 8 oz.	1 lb. 2 oz.	13 oz.	7 oz.	4 oz.
Per Dozen,	$6.00	5.00	4.25	3.50	3.00

Engineers' Riveting Pein.



91.	Engineers', Crucible Cast Steel, ...	2 lbs. 4 oz.,	9.00
92.	Engineers', Crucible Cast Steel.	1 lb. 12 oz.,	8 00

Blacksmiths' Hand.



61.	Blacksmiths' Wedge Pein, Crucible Cast Steel, . .	3 lbs.	11.00
62.	Blacksmiths' Wedge Pein, Crucible Cast Steel, . .	2 lbs. 10 oz.	10 00

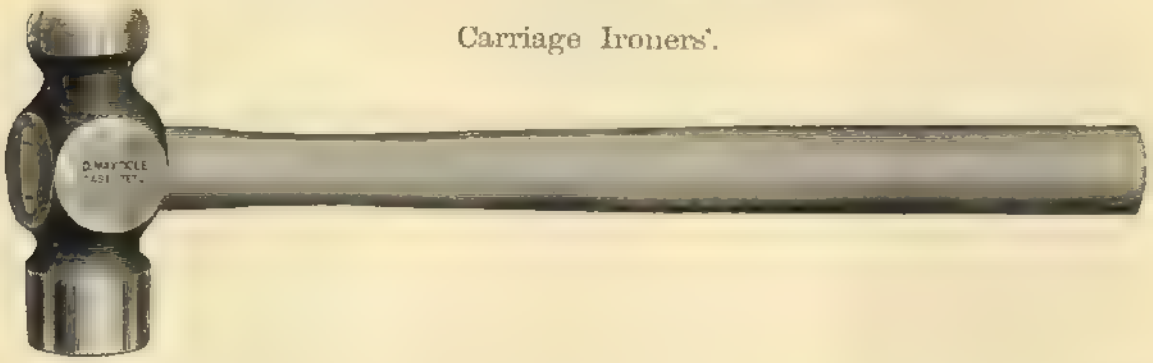
One-Third Dozen in a Box.

The Weights are for Single Hammers without Handles.

Hammers.

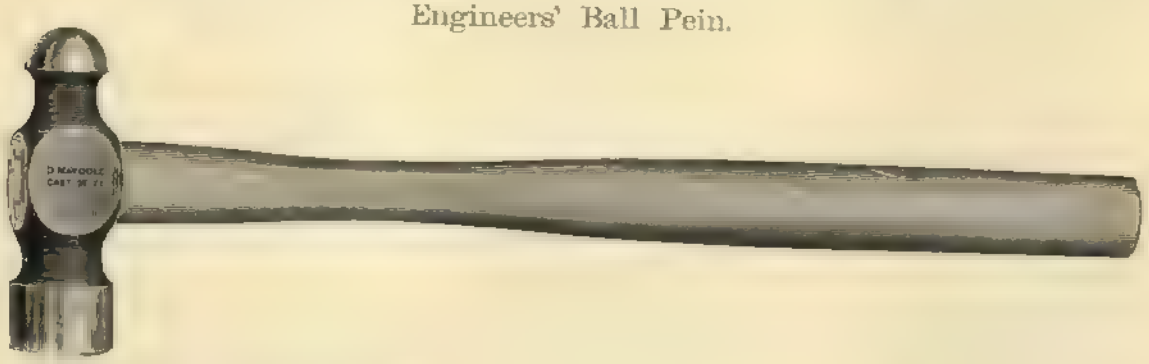
Maydole's Solid Crucible Steel.

Carriage Ironers'.



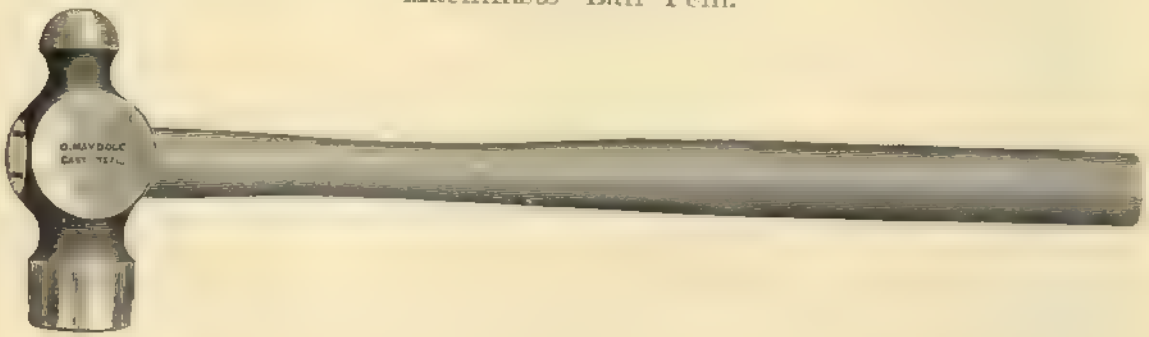
No.			Per Dozen
112.	Carriage Ironers', Crucible Cast Steel, ...	2 lbs., 6 oz.,	$11.00

Engineers' Ball Pein.



81.	Engineers', Crucible Cast Steel, ...	2 lbs.,	10.50
82.	Engineers', Crucible Cast Steel, ...	1 lb., 9 oz.,	9.00
83.	Engineers', Crucible Cast Steel, ...	1 lb., 2 oz.,	8.00

Machinists' Ball Pein.



Nos.	70½	71	72	73	74	75	76
Weight,	2 lbs., 4 oz.	1 lb., 14 oz	1 lb., 8 oz.	1 lb., 4 oz.	1 lb.	13 oz.	10.oz.
Per Dozen,	$13.00	11.50	10.50	9.50	9.00	8.50	8.00

One-Third Dozen in a Box.

The Weights are for Single Hammers without Handles.

Hammers.

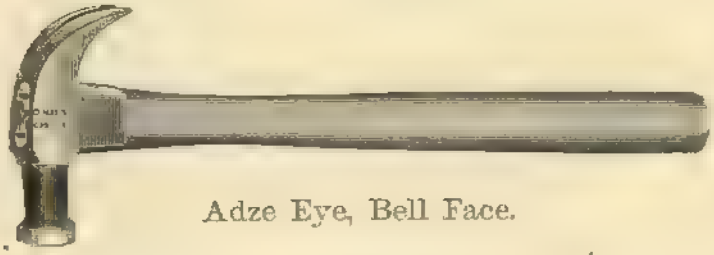
Maydole's Solid Crucible Steel.

Adze Eye, Round.

No.	1	1½	2	3
Weight,	1 lb., 4 oz.	1 lb.	13 oz.	7½ oz.
Per Dozen,	$8.00	7.00	6.00	5.00

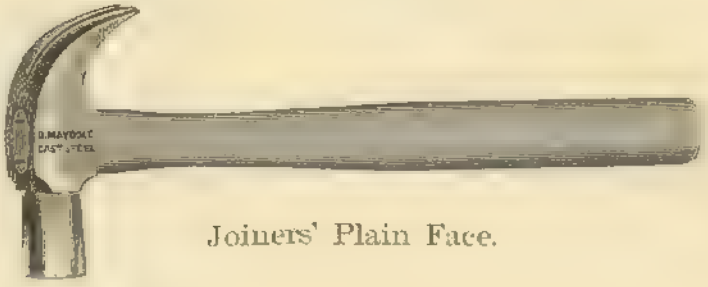
Adze Eye, Octagon.

No.	201	201½	202	203
Weight,	1 lb., 6 oz.	1 lb., 2 oz.	14 oz.	8 oz.
Per Dozen,	$8.50	7.50	6.50	5.50



Adze Eye, Bell Face.

No	11	11½	12	13
Weight,	1 lb, 3 oz.	1 lb.	12 oz.	7 oz.
Per Dozen,	$8.00	7.00	6.00	5.00



Joiners' Plain Face.

No.			Per Dozen
21½.	Extra Solid Cast Steel,	15 oz.	$4.50
23.	"Brad," Solid Cast Steel,	7 oz.	3.50

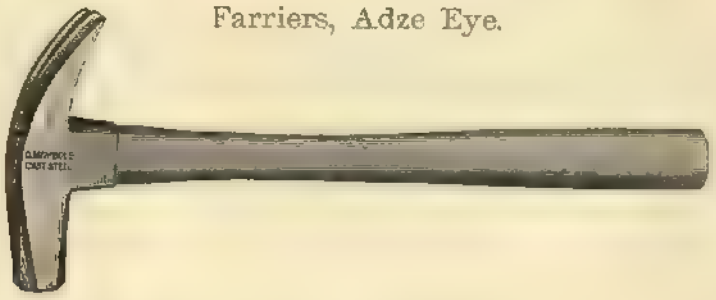
Half Dozens in Box.

The Weights are for Single Hammers without Handles.

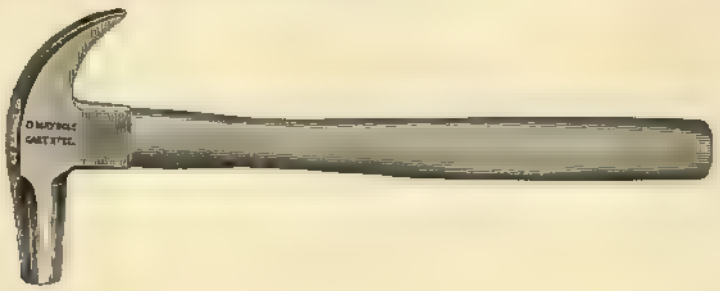
Hammers.

Maydole's Solid Crucible Steel.

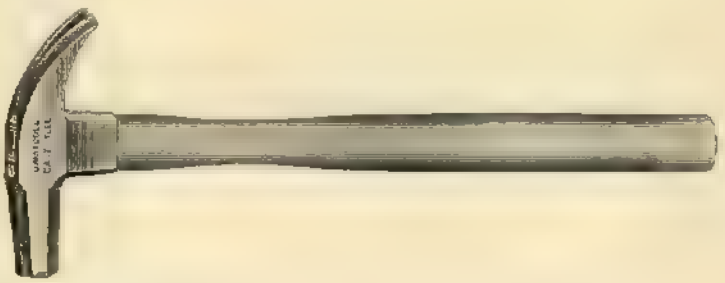
Farriers, Adze Eye.



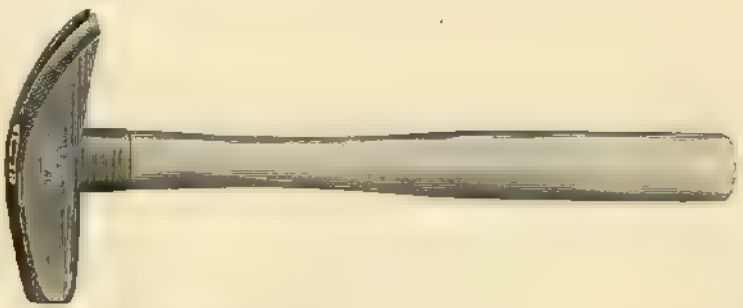
No.			Per Dozen
152 ($\frac{\text{Old}}{11}$).	Boston Pattern, Crucible Cast Steel, ...	10 oz.	$6.00



253 ($\frac{\text{Old}}{52}$).	Round, Crucible Cast Steel, ...	8 oz.	5.00



352.	Octagon, Crucible Cast Steel, ...	10 oz.	6.00



451.	California Pattern, Crucible Cast Steel, ...	12 oz.	6.50

Half Dozen in a Box.

The weights are for Single Hammers without Handles.

COAL MINING DRILLS.

THE McNELLY SQUARE-PIPE GRIP DRILL.

Fig. 1249

McNelly Square Grip Drill.

The cut represents the McNelly Square-pipe Grip Drill fastened to the coal ready for use, with side-gear attached. It can be used without the side-gear.

This machine uses same side-gear, augers, feed-bar, and nut as the McNelly and Sterling drills. Any person using a McNelly or Sterling drill can, by buying a Grip, at cost of $4, have two complete machines at nearly the cost of one.

This grip post is made of square pipe and steel, and can be lengthened or shortened by telescoping, same as the other drills. The construction of this drill is far superior to any other grip-drill made.

McNelly Square-pipe Grip Drill, complete, with side-gear and three augers, 2, 4 and 6 feet long $15.00

Same machine, without side gear 12.00

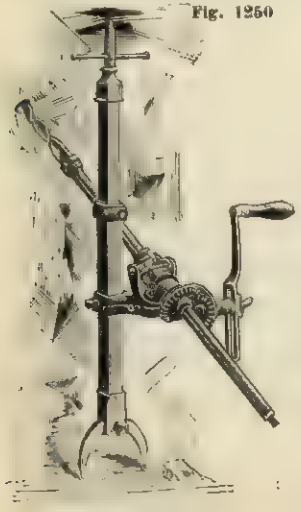
McNelly Square-pipe Grip Post, alone 4.00

EXTRA PARTS FOR M'NELLY AND STERLING DRILLS.

No.		Price
1	Bottom Yoke tapped for jack-screw	$1.75
2.	Top Yoke	1.75
3.	Sliding Bridge	1.50
4.	Gear Frame, with Socket	1.25
5	Gear Frame, without Socket	.60
8.	Lower part Thread Boxing.. } boxing complete.	1 20
7	Upper part of same, and springs }	
9	Auger Socket	.50
10	Large Pinion	.75
11.	Small Pinion, with Journal	1.00
12	Clamp Washer, for handle	10
13.	Crank and Handle	40
14	Swivel Yoke, to hold thread boxing	1.00
15	Coupling and Set Screw, for 1¼ inch pipe.	.50
16	Steel Feed-bar, 1⅛ inch, three feet long	2.25
17.	Steel Jack Screw, one foot long.	50

No.		Price
18.	Bottom Frame Pipe, 1¼, each	$0.60
19.	Top Frame Pipe, special, each	.75
20.	Extension Piece, for double post	.50
21.	Sterling Post Bridge	1.00
22.	Thumb Screw, for bridge	.10
23.	⅝ Handle Screw	.25
24.	Thumb Nut	.10
25.	Spring	.15
26.	Thread-bar Frame, for single post	2.00
27.	Sliding Collar and Hook, for single post	1.50
28.	Swivel Socket, for grip machine	.75
29.	Top Part Thread-bar Nut, for single post }	1.00
30.	Bottom Part " " " " " }	
31.	24-inch Extension	1.00
32.	1½ Square Grip Coupling	1.00
	Augers, per foot	50

Fig. 1250



Sterling Single Post Drill.

STERLING SINGLE POST DRILL.

This drill embraces all the valuable features of the McNelly Drill, and for mines 5 feet in height and under, will do work equally as well. In fact, the main parts, including side-gear, feed-screw and augers, are duplicates of the McNelly Drill, the only difference being in the post and the nut-carrying frame. This machine is made light, to be easily handled and moved, the complete machine weighing but 70 pounds; the post and frame weighing only 27 pounds. It can be used with or without side-gear, as may be desired, and can be set up, taken down, moved and operated by boys, as well as by a man We recommend this drill for mines of 5 feet or under, but they are in use successfully in mines 6 feet and over.

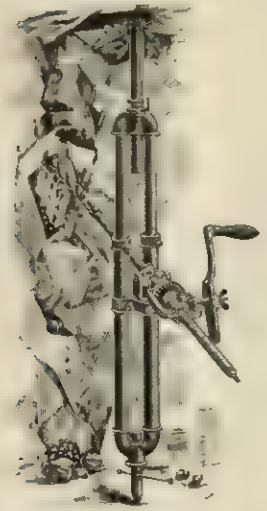
Made in two lengths, as follows:

No. 1—For mines from 3 feet to 4⅛ feet.
No. 2—For mines from 4 feet to 5½ feet.

Sterling Drills, complete, with side-gear and three augers, 2, 4 and 6 feet long.....$17 00
Same machine, without side-gear 14 00

COAL MINING DRILLS.

Fig. 1251.



McNELLY DRILL, WITH SIDE-GEAR ATTACHED.

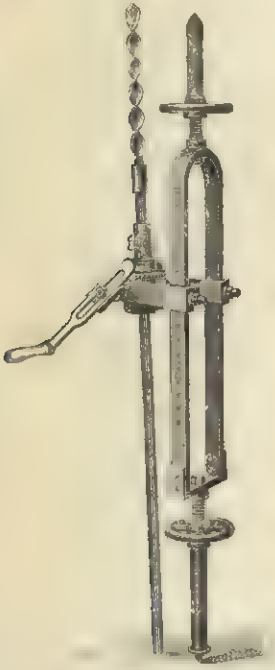
THIS machine, complete, consists of the post, as shown in the cut, with boxing to carry the screw and auger, a steel screw for driving the auger, three steel augers, two, four and six feet long, and side-gear for imparting the motion The posts are made of extra strong pipe, made especially for this machine, and are made so as to telescope together. This enables the operator to lengthen or shorten the machine easily and more quickly than any post machine made; it being held at any desirable height by set-screws. The connecting parts of the posts are all made of Malleable Iron, strong and durable. The boxing is longer than any other used, giving it more strength, and saving wear over any other. It rests upon a slide bridge, which can be raised or lowered on the post at will This is a valuable feature in this machine, as when the bottom is soft the post is liable to settle, and thus cause the auger to bind in the hole, often necessitating a resetting of the post. In this machine all this trouble is overcome, as with the jack screw it can at once be tightened, and the sliding bar adjusted so as to relieve the auger from any friction, however slight The driving screw is made of the best steel, and also the augers, which are fitted and sharpened ready for use. This machine is adapted to all kinds of mine work, and for lifting bottom, or taking down roof, it is absolutely the best machine made, as it can be worked at any angle desired, and is so easily and quickly adjusted. For close work it is unequaled, and, with side-gear, can put a hole within two inches of the rib. The gear can be used on either side, or on top, or directly under the driving-screw, and can be changed from one position to another instantaneously. Made in three lengths as follows: No. 0, for mines 3 to 5 feet; No. 1, for mines 3 ft. 8 in. to 7 feet; No. 2, for mines 4 ft. 4 in. to 8 feet.

McNELLY DRILL, complete, with side-gear and three augers, 2, 4 and 6 feet long	$18.00
Same machine, without side-gear	15 00

COAL MINING DRILLS.

"JEFFREY."

Fig. 1252



Hand Coal and Slate Drill for Heavy Work.

HAND COAL AND SLATE DRILL.

THIS Drill is designed and built more especially for **Roof** or **Floor** work, in **Slate** or **Fire-Clay**, but will drill equally as well in **Coal.**

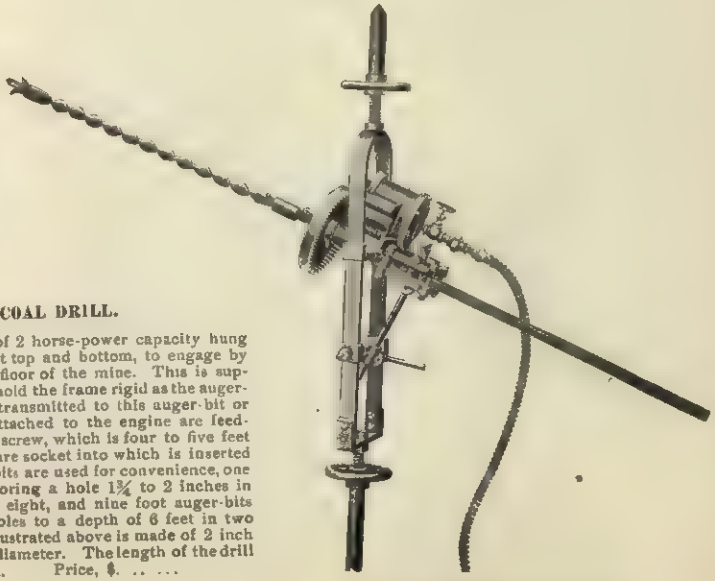
The Crank and Gears are so arranged as to give great power and strength. Will drill perpendicular holes in **Roof** or **Floor**, or horizontally in the coal.

The Drill is simple, with few parts, and is built in a first-class manner. The Feed Nuts are adjustable.

The Frame can be adjusted to any height of vein, and a second crank can be applied if desired.

Price.. . ... each. $.. .

Fig. 1253.



Giant Air Power Coal Drill.

GIANT AIR POWER COAL DRILL.

IT consists of a small rotary engine of 2 horse-power capacity hung in an upright frame, having joints at top and bottom, to engage by adjusting screws with the roof and floor of the mine. This is supported by a dog or brace, to stiffen and hold the frame rigid as the auger-bit advances into the coal. Power is transmitted to this auger-bit or feed-bar through two gear wheels. Attached to the engine are feed-nuts, that open and close upon the feed-screw, which is four to five feet in length, on one end of which is a square socket into which is inserted the square end of the auger-bit. Two bits are used for convenience, one three feet and the other six feet long, boring a hole 1¾ to 2 inches in diameter, as may be required. Seven, eight, and nine foot auger-bits are used to good advantage. Drills holes to a depth of 6 feet in two minutes. The Frame in both Drills illustrated above is made of 2 inch by ⅛ inch steel, and feed-bar 1⅛ inch diameter. The length of the drill frame is governed by the height of coal. Price, $. .. ...

COAL MINERS' TOOLS.

Fig. 1244

Tamp Ends.

Twelve inches of 1 inch Round Iron, 6 inches of Copper, with Tamp on end.

Price . . . . . per dozen, $19.00

Fig. 1245

Copper Tipped Tamping Bars.

No. Drill To be used with double bit or machine Drills 1 inch round iron, 6 inches of Copper on tamp end.

6 feet long	.	per dozen,	$22.80	8 feet long	.	per dozen,	$25 80
7 "	. . . . .	"	24.62	9 "	. . . . .	"	27 00

Fig. 1246

Copper Tamp Drills.

This tamp will not come loose, and can not be removed from the bar. 1 inch round iron, 2¼ inch Bit, 6 inches Copper on tamping end, 8 inches of Steel on bit end.

6 feet long	. . . . .	per dozen,	$28.20	8 feet long	. . . . .	per dozen,	$34 20
7 "	. . . . .	"	31.20	9 "	. . . . .	"	37 20

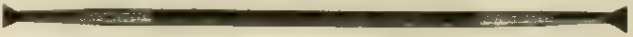
Fig. 1247

Drills—Single Bit.

Iron tamp. 8½ inches best Cast Tool Steel on bit end. 1 inch round rod, 2¼ inch Bit.

5 feet long	. . . . .	per dozen,	$24.00	7½ feet long	. . . . .	per dozen,	$31.50
6 "	. . . . .	"	27 00	8 "	. . . . .	"	33 30
6½ "	. . . . .	"	28.50	8½ "	. . . . .	"	34.50
7 "	. . . . .	"	30.00	9 "	. . . . .	"	36.00

Fig. 1248



Drills—Double Bit.

8½ inches best Cast Tool Steel on each end. 1 inch round iron, 2¼ inch Bit.

5 feet long	. . . . .	per dozen,	$33 00	7½ feet long	. . . . .	per dozen,	$40.50
6 "	. . . . .	"	36.00	8 "	. . . . .	"	42.00
6½ "	. . . . .	"	37.50	8½ "	. . . . .	"	43.50
7 "	. . . . .	"	39.00	9 "	. . . . .	"	45.00

Tennis and Outing Clothing.

Cloth Suits.

In plain and fancy Weaves, comprising a great variety of Exclusive and Elegant Designs, well finished tailor made and cut in latest styles

NO.	DESCRIPTION.	COATS, EACH.	PANTS PER PAIR.
100	Finest Imported English Serge,	$1 00	$3 00
300	Fancy Wool, and in Plain White and Gray,	7 50	6 00
500	Fine Domestic Serge,	5 00	5 00

White Duck Coats.

NO.	DESCRIPTION	EACH
10	Coat, White Linen Duck, Best Quality,	$6 00
20	Coat, White Linen Duck, Good Quality,	5 00

White Duck Pants.

NO.	DESCRIPTION	PER PAIR.
1	Pants, White Linen Duck, Best Quality,	$3 00
2	Pants, White Linen Duck, Medium Quality,	2 50
3	Pants, White Linen Duck, Ordinary Quality,	2 00

Blue Serge Coats.

NO.	DESCRIPTION	EACH
0	Blue Serge Coats, Best Quality,	$8 00
00	Blue Serge Coats, Medium Quality,	7 00

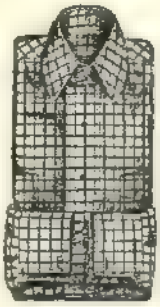
Very popular in combination with White Duck Pants. Sample card of suitings furnished on application.

Striped Tennis Coats.

NO.	DESCRIPTION	EACH.
B	College Blazers, made up of Fine Imported Printed Flannel, all the leading Colors,	$5 00

Tennis and Outing Shirts.

In many Beautiful and Exclusive Designs.



NO.	DESCRIPTION	EACH
9	Finest Imported Madras,	$3 00
13	Best Domestic Madras,	2 50
15	Finest Imported Cheviot,	3 00
16	Best Domestic Cheviot,	2 50

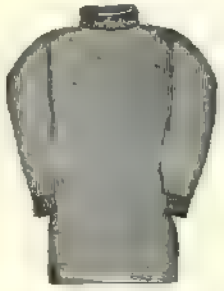
Fancy Flannel Shirts.

NO.	DESCRIPTION	EACH
230	Extra Fine Quality Flannel,	$3 00
250	Good Quality Flannel,	2 50

The above Shirts furnished in following sizes from stock: Breast measurement, 30 to 44 in. Inc. On extra charge will be made for Shirts other than our regular stock sizes.

Tennis and Outing Caps.

Sweaters.



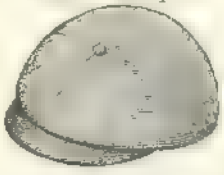
NO.	DESCRIPTION	EACH.
74	Good Quality, Medium Weight; Colors: White and Black,	$3 50
76	Fine Quality, Medium Weight, Colors: White, Black, Navy Blue and Tan,	4 50
96	Extra Quality, Heavy Weight Colors: White, Black, Navy Blue and Tan,	5 50

Eaton Shape.

8-inch Visor.

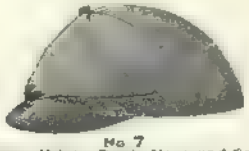
NO.	DESCRIPTION	EACH.
0/L	0 Quality, Base Ball Flannel,	$1 25
1/L	1st Quality, Base Ball Flannel,	1 00
2/L	2d Quality, Base Ball Flannel,	75

Eaton Shape.



DESCRIPTION.	EACH
No. 0 Quality, Base Ball Flannel,	$1 00
No. 1 Quality, Base Ball Flannel,	75
No. 3 Quality, Base Ball Flannel,	50

Hook Down Tennis.

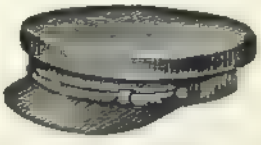


No. 7

Colors: White, Black, Navy and Grey

DESCRIPTION	EACH
No. 0 Quality Flannel	$1 00
No. 1 Quality Flannel,	75
No. 3 Quality Flannel	50

Yatching Shape.



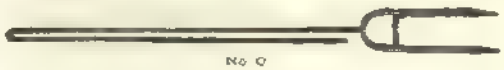
NO.	DESCRIPTION	EACH
300	Fine All-Wool Flannel,	$1 75
500	Fine Serge,	1 25
600	Blazer Flannel,	1 25

Tennis Sundries.

Regulation Tennis Nets.

NO.	DESCRIPTION	EACH
100	Single Court, 27 feet, 12 thread,	$1 00
101	Single Court, 27 feet, 15 thread,	1 25
102	Single Court, 33 feet, 12 thread,	1 50
103	Single Court, 33 feet, 15 thread,	1 75
104	Single Court, 33 feet, 21 thread	2 50
105	Double Court, 36 feet, 12 thread,	1 75
106	Double Court, 36 feet, 15 thread,	2 00
107	Double Court, 36 feet, 21 thread,	2 75
108	Double Court, 42 feet, 12 thread,	2 00
109	Double Court, 42 feet, 15 thread,	2 25
110	Double Court, 42 feet, 21 thread	3 00
	Banding, extra - - Per Yard	$0 05

Center Irons.



No. 0

No. 2

NO.	DESCRIPTION	EACH.
0	Regulation Galvanized Iron,	$0 75
2	Patent Stirrup Center Iron,	1 00

Slazenger & Son's English Tennis Balls.

NO.	DESCRIPTION	PER DOZEN
1	Slazenger's Championship Tennis Ball, Felt Covered. Absolutely Exact in Shape, Weight, Size and Bound, to the Regulations Made by the Tennis Authorities. - - - - - -	$5 00
2	Plain Rubber, Regulation in Size, Weight, etc.	2 50

Wright & Ditson's Tennis Balls.

NO.	DESCRIPTION	PER DOZEN
3	Regulation, - - - - - - -	$5 00
1	Club, Felt, - - - - - - -	3 50

Tennis Books.

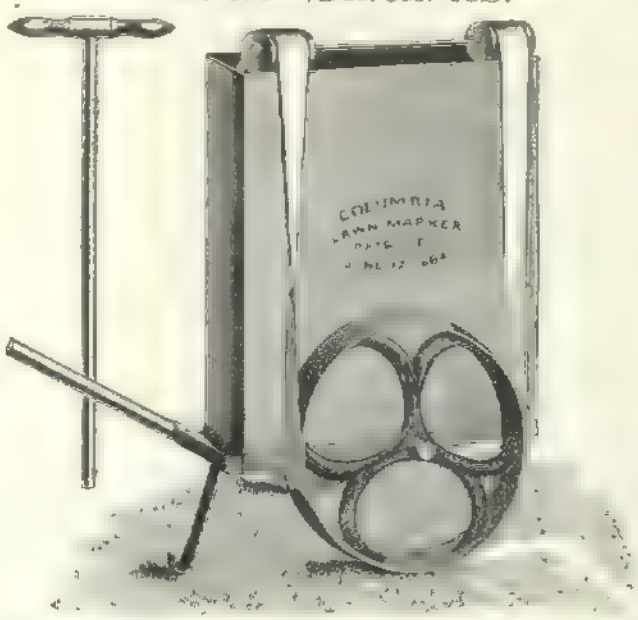
"Slocum on Tennis."

DESCRIPTION	EACH
This Work has met with decided favor, and being written by one whose reputation as a player is world-wide should make it an authority, - - - - - - - - - -	$0 50

"Wright & Ditson's Tennis Guide."

DESCRIPTION.	EACH
A Standard Publication and Authority on all matters concerning this popular sport, -	$0 15

Tennis Sundries.

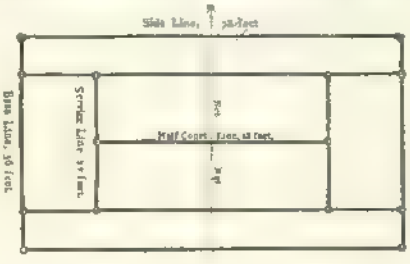


Columbia Lawn Marker.

This is the only perfect marker in the market, and has been thoroughly tested at all the large tournaments and on club and private courts with entire satisfaction. Contact in full view. It is neat, light, compact and durable. It is made of tin and iron, nicely painted. It is simple and easy to operate. It makes a clear, even white line. It will mark or not, as desired, as it delivers only while running. It has no valves or cocks to adjust or get out of order. It is warranted to give satisfaction. It is packed in a crate for safe transportation.

NO.	DESCRIPTION.	EACH.
14	Complete,	$6 00

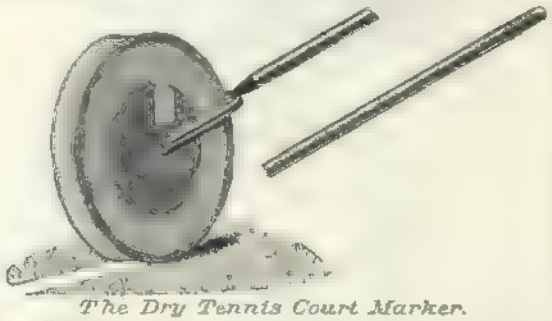
NOTE.—In marking out a court whitening should be used in preference to lime. Mix the whitening in a pail about three-fourths full of water to about the consistency of paint, before placing in the marker. This will be sufficient for marking one court.



Wright & Ditson's Portable Tennis Tapes.

These tapes are especially adapted for clay, cinder and grass courts. Being light and compact, they can be easily carried and set out almost anywhere in a very short time. They are made up into sets consisting of a sufficient number of strong pieces of webbing (painted white to prevent rotting) for marking out a regulation court. The tapes are fastened to the ground by means of [illegible] which are furnished with each set.

DESCRIPTION.	
Double Court, per set,	$5 00
Single Court, per set,	4 00
Extra Galvanized Staples, per 100,	75



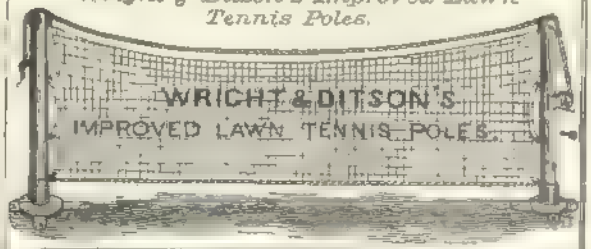
The Dry Tennis Court Marker.

This marker requires no mixing of material with water to get ready for use. Put in any powdered material, such as marble dust, air-slacked lime, plaster of Paris, or ground plaster, such as is used for fertilizing purposes. By sprinkling immediately after marking, or [illegible] before the game, the lines can be made more permanent. The [illegible] will last two months, which is sufficient for [illegible]

NO.	DESCRIPTION	EACH.
15	Price,	$4 00

Tennis Sundries.

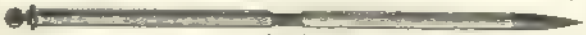
Wright & Ditson's Improved Lawn Tennis Poles.



DESCRIPTION	PER PAIR
Poles Complete,	$1 00

Do away with guy ropes, are easily and quickly adjusted, are strong and durable, being made of solid ash and iron, nicely finished. The cut, which is by the small crank, shows how it is adjusted.

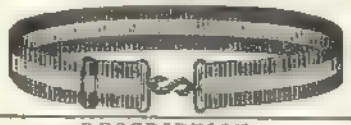
Sectional Net Poles.



No. 11.

NO.	DESCRIPTION.	PER PAIR.
10	Hardwood, Polished, with Brass Ferrules, 1½ inch Diameter,	$1 00
11	Best Polished Jointed Poles,	2 00
12	White Ash, Polished, Painted and Gilded Brass Ferrules, Fancy Turned Tops, 1¾ inch Diameter,	2 50
12½	White Ash, Polished, Painted and Gilded Nickel Ferrules, Fancy Turned Tops, with Flags, 2 inches Diameter,	3 00

Tennis Belts.



NO.	DESCRIPTION.	PER DOZ.
10	1¾ inch Wide, Cotton Web Belts, with Crystal Plate, Snake Buckle and Adjustable Slide; Colors, Black, White, Navy Blue and Red,	$1 20
11	2 inches Wide, Worsted Belts, with Bright or Bronzed Snake Buckle and Adjustable Slide; Colors, Black, White, Navy Blue and Royal Blue,	2 15
12	2½ inches Wide, Worsted Belts, with Bright or Bronzed Snake Buckle and Adjustable Slide; Colors, Black, White, Navy Blue, Royal Blue, Brown, Maroon and also with Stripes,	3 00

No. 13.

No. 14.

NO.	DESCRIPTION	PER DOZ.
13	2 inches Wide Silk Belts with Bright or Bronzed Buckle and Adjustable Slide; Tricolor, Stripes Running Lengthwise,	$4 00
14	2 inches Wide, Superior Silk Belts, Very Heavy, with Bright or Bronzed Snake, Dragon or Large Round Buckle with Crossed Tennis Bats (see cut); Colors, Black, White, Cardinal, Orange and Black, Tricolors, and Solid Colors, with fine line of Contrasting Colors along edge,	6 00
15	2½ inches Wide, Fine Silk Belts, Very Heavy, same as No. 14, except 2½ inches wide,	8 00

Guy Ropes, Runners and Pegs.

NO.	DESCRIPTION	PER SET
0	Medium Size Cotton Ropes, 4 Plain Pegs, 4 Runners,	$0 [illegible]
1	Medium Size Cotton Ropes, 4 Plain Pegs, 4 Runners,	50
2	Large Cotton Ropes, 4 Large Polished Maple Pegs, 4 Runners,	75
3	Large Braided Ropes, 4 Extra Large Painted Pegs, 4 Runners,	1 [illegible]

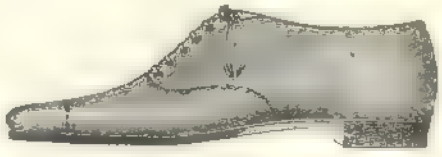
Mallets for Driving Pegs.

NO.	DESCRIPTION	EACH
1	Plain Ash,	$0 [illegible]
2	Polished Maple,	[illegible]
3	Ebonite,	[illegible]

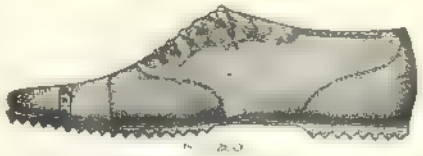
Solid Net Poles.

NO.	DESCRIPTION	PER PAIR
14	Small Poles to be used for Single Court	$0 75
20	Back Net Poles, 8 feet long,	1 75

Tennis Shoes.



No. 370.



No. 275.

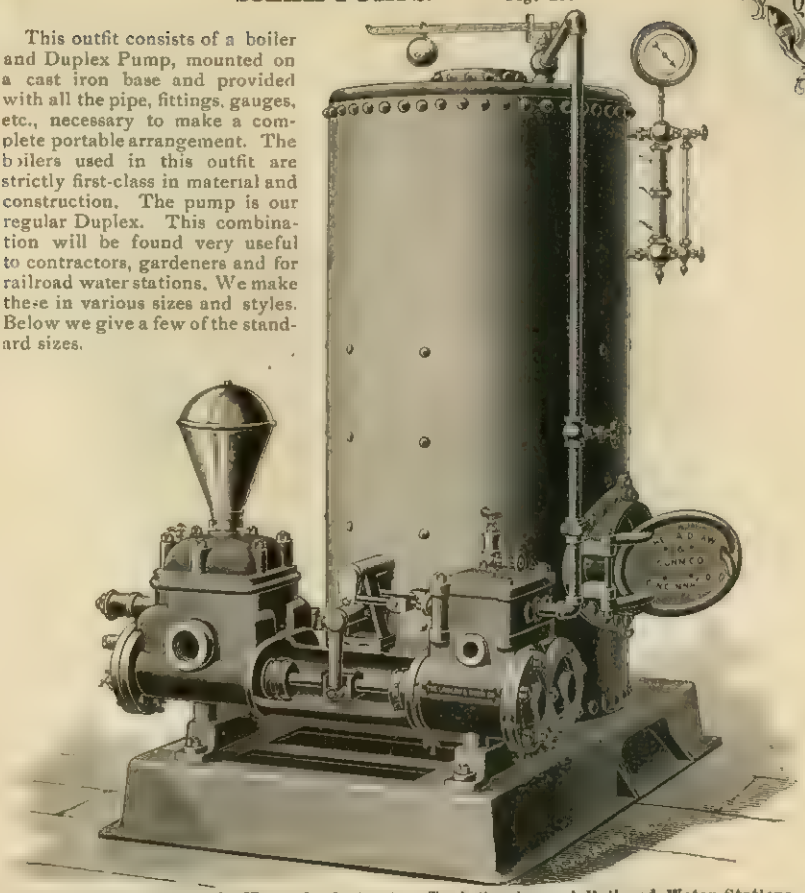
NO.	DESCRIPTION	PER PAIR
370	Men's Extra Fine Tan Calf, Laced Oxford Shoe, with Leather Sole; an Elegant Summer Shoe to wear at any time,	$5 25
275	Extra Fine Tan Calf Oxfords, with Heavy Smooth Rubber Sole, Men's and Ladies', [illegible]	[illegible]
200	Men's Extra Fine Tan Canvas Shoe Once Trimmed, with Fine Quality Rubber Sole,	3 00
345	Goodyear's Men's and Ladies' Fine Canvas Oxfords, Rubber Sole; Colors, White Black and Light Tan,	1 50
245	Goodyear's Boys' Oxfords; same as No. 345 for Boys' Sizes,	1 [illegible]
545	Goodyear's Fine Black Cloth Oxfords, Rubber Sole, Men's and Ladies'	[illegible]
240	Men's and Ladies' Cheap Canvas Tennis Slippers, Rubber Sole,	1 15

STEAM PUMPS.

Fig. 47.

This outfit consists of a boiler and Duplex Pump, mounted on a cast iron base and provided with all the pipe, fittings, gauges, etc., necessary to make a complete portable arrangement. The boilers used in this outfit are strictly first-class in material and construction. The pump is our regular Duplex. This combination will be found very useful to contractors, gardeners and for railroad water stations. We make these in various sizes and styles. Below we give a few of the standard sizes.

In sizes larger than 6x4x6, they are set separate from the boilers, and are not on cast iron base.



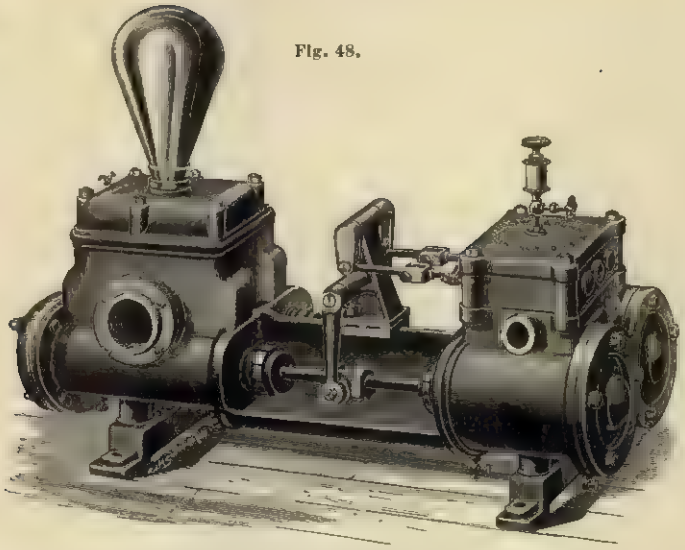
Combined Boiler and Duplex Pump for Irrigation, Tank Service and Railroad Water Stations.

SIZES, CAPACITIES, ETC.

Diameter of Steam Cylinder	Diameter of Water Plunger	Length of Stroke	Proper number of Strokes per minute of One Plunger.	Gallons Delivered by both Plungers at Stated Number of Strokes.	SIZES OF PIPE FOR SHORT LENGTHS TO BE INCREASED AS LENGTH INCREASES			
					Steam Pipe	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.
3	2	3	100 to 250	8 to 20	$\frac{3}{8}$	$\frac{1}{2}$	$1\frac{1}{2}$	1
$4\frac{1}{2}$	$2\frac{1}{4}$	4	100 to 200	20 to 40	$\frac{1}{4}$	$\frac{3}{4}$	2	$1\frac{1}{2}$
$5\frac{1}{4}$	3	6	100 to 200	40 to 80	$\frac{3}{4}$	$1\frac{1}{4}$	$2\frac{1}{2}$	$1\frac{1}{2}$
6	4	6	100 to 150	70 to 100	1	$1\frac{1}{2}$	3	2
$7\frac{1}{2}$	$4\frac{1}{2}$	10	75 to 125	100 to 170	$1\frac{1}{2}$	2	4	3
9	$5\frac{1}{4}$	10	75 to 125	140 to 280	2	$2\frac{1}{2}$	4	3
10	6	10	75 to 125	180 to 300	2	$2\frac{1}{2}$	5	4
LOW SERVICE OR TANK PUMPS.								
$4\frac{1}{2}$	$3\frac{3}{4}$	4	100 to 200	40 to 80	$\frac{1}{2}$	$\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{1}{2}$
6	$5\frac{1}{4}$	6	100 to 150	130 to 195	1	$1\frac{1}{2}$	4	3
$7\frac{1}{2}$	6	10	75 to 125	180 to 300	$1\frac{1}{2}$	2	5	4
$7\frac{1}{2}$	7	10	75 to 125	245 to 410	$1\frac{1}{2}$	2	6	5
9	$8\frac{1}{2}$	10	75 to 125	365 to 610	2	$2\frac{1}{2}$	7	6

STEAM PUMPS.

Fig. 48.



Duplex Piston Boiler Feed Pumps.

These Pumps have removable and interchangeable Brass Water Cylinders, Steel Piston Rods, steel adjustable Valve motion, Brass Valve Seats, stems and springs, either Brass or Hard Rubber Valves.

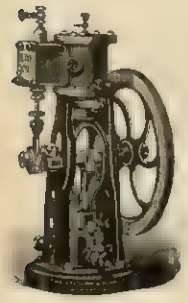
SIZES, CAPACITIES, ETC.

Diameter of Steam Cylinders.	Diameter of Water Plungers.	Length of Stroke.	Displacement in Gallons per stroke of *one* plunger.	Proper strokes per minute of *one* plunger, varying with kind of work and pressure.	Gallons delivered per minute by *both* plungers at stated number of strokes.	Diam. of Plunger required in any single cylinder pump to do the same work at the same speed.	SIZES OF PIPES FOR SHORT LENGTHS. To be increased as length increases.			
							Steam Pipe	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.
*3	2	8	.04	100 to 250	8 to 20	2⅞ inches.	⅜	½	1¼	1
*4½	2¾	4	.10	100 to 200	20 to 40	4 inches.	½	¾	2	1½
*5¼	3¼	6	.24	100 to 200	40 to 80	5 inches.	¾	1¼	2½	1½
*6	4	6	.33	100 to 150	70 to 100	5⅝ inches.	1	1¼	3	2
6	4½	6	.42	100 to 150	80 to 115	6⅜ inches.	1	1½	3	2½
*7½	4¾	10	.69	75 to 125	100 to 170	6⅜ inches.	1½	2	4	3
*9	5¼	10	.93	75 to 125	140 to 230	7½ inches.	2	2½	4	3
*10	5¼	10	.93	75 to 125	140 to 230	7½ inches.	2	2½	5	4
*10	6	10	1.22	75 to 125	180 to 300	8½ inches.	2	2½	5	4
.0	7	10	1.66	75 to 125	245 to 410	9⅞ inches.	2	2½	6	5
*12	6	10	1.22	75 to 125	180 to 300	8½ inches.	2½	3	5	4
*12	7	10	1 66	75 to 125	245 to 410	9⅞ inches.	2½	3	6	5
*12	8	10	2.30	75 to 125	325 to 544	11⅛ inches.	2½	3	7	6
2	8½	10	2.45	75 to 125	365 to 610	12 inches.	2½	3	7	6
*14	7	10	1.66	75 to 125	245 to 410	9⅞ inches	2½	3	6	5
*14	8	10	2.30	75 to 125	325 to 544	11⅛ inches.	2½	3	7	6
4	8½	10	2.45	75 to 125	365 to 610	12 inches.	2½	3	7	6
.4	10¼	10	3.57	75 to 125	530 to 890	14½ inches.	2½	3	8	7
*.6	8½	10	2.45	75 to 125	730 to 1200	12 inches.	2½	3	7	6
.6	10¼	10	3.57	75 to 125	530 to 890	14¼ inches.	2½	3	8	7
16	12	10	4 89	75 to 125	730 to 1220	17 inches.	2½	3	10	8
18½	9¼	12	3.68	75 to 125	530 to 925	13 inches.	3	3½	8	7
18½	10¼	12	4.28	75 to 125	642 to 1070	14¼ inches.	3	3½	8	7
18½	12	12	5.87	75 to 125	880 to 1467	17 inches.	3	3½	10	8
20	10¼	12	4.28	75 to 125	642 to 1070	14¼ inches.	4	5	8	7
20	12	12	5.87	75 to 125	880 to 1467	17 inches.	4	5	10	8
20	14	12	8.00	75 to 125	1200 to 2000	19¾ inches.	4	5	12	10

Small sizes marked * are adapted for boiler feeding. An additional charge will be made for brass rods and plungers.

STEAM PUMPS.

Fig. 49.



"Hero" Vertical Boiler Feed Pump.

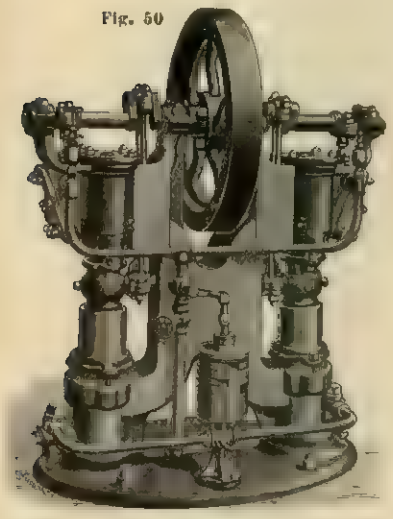
HERO VERTICAL BOILER FEED PUMP.

THIS pump is of the crank, fly wheel and plunger pattern. The double plunger and piston rod is of entirely new design, and cast in one piece, with a large opening in the center to give room for the adjustment of the pitman. The sides of plunger are slotted for the crank-shaft, so as to admit of vertical movement. The crank working inside of the hollow part of the plunger. The housing is very strong, and is faced and bored at top and bottom, thus bringing the steam and water cylinders in perfect line, and obviating any side strain. The check valves are of the best and extra heavy steam metals.

SIZES, CAPACITIES, ETC.

No.	Diam. Steam Cylinder. In.	Diameter Water Plunger.	Stroke in Inches.	Size Steam Pipe.	Size Exhaust Pipe.	Size Water Pipe.	Revolutions Per Minute.	Gallons Per Min.	H. P. if used as Feed
0	2½	1⅝	2	¼	⅜	¾	110	1¼	12
1	3	1¾	2½	⅜	½	1	100	2	17
2	3½	2	2½	⅜	¾	1	100	3½	27
3	4	2½	3	½	¾	1¼	90	5¾	46
4	4½	3	3	½	¾	1½	85	7¾	62

Fig. 50



Gordan Brewers' Vertical Air Pump.

BREWER'S VERTICAL AIR PUMP.

CRANK and Fly Wheel Pattern, with Automatic Regulating device for controlling the speed and regulating the pressure.

SIZES, CAPACITIES, ETC.

Diam. of Steam Cylinder.	Diam. of Air Cylinder.	Length of Stroke.	Sizes of Pipes for short Lengths to be increased as length increases.			
			Steam Pipe	Ex. Pipe.	Suction Pipe.	Dis. Pipe
8	5⅛	5	Two ¾	Two 1	Two 1	Two ¾
6	7	6	" ¾	" 1	" 1½	" 1¼
6	9	5	" ¾	" 1	" 2	" 1½

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUMP & MFG. CO. PROP'S

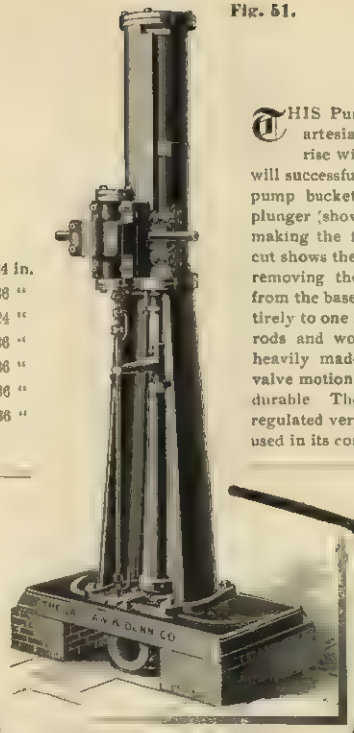
STEAM PUMPS.

SIZES, ETC.

Steam Cylinder,	5	in.	diameter;	Stroke,	24 in.
"	5	"	"	"	36 "
"	6	"	"	"	24 "
"	6	"	"	"	36 "
"	8	"	"	"	36 "
"	10	"	"	"	36 "
"	12	"	"	"	36 "

PRICES ON APPLICATION.

Fig. 51.



Artesian or Deep Well Pump.

THIS Pump is especially designed for non-flowing artesian or tube wells, where the water does not rise within drawing distance of the surface and will successfully raise water from the deepest well. The pump bucket discharges on the up-stroke and the top plunger (shown in cut) discharges on the down-stroke, making the flow of water steady and continuous. The cut shows the way in which it can be repaired; thus, by removing the key, cross heads and three of the bolts from the base, the pump revolves on the fourth bolt entirely to one side, allowing sufficient room to withdraw rods and working parts of the pump. All parts are heavily made and carefully put together. The steam valve motion is of our own design and very simple and durable. The cushion valves admit of the stroke being regulated very evenly. None but the best of material is used in its construction.

Fig. 53.

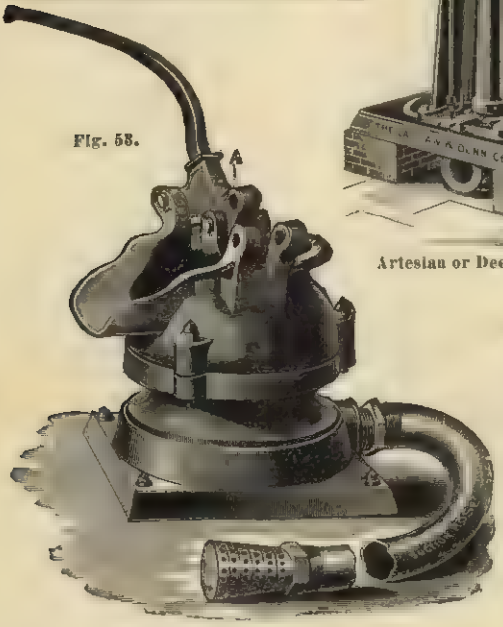
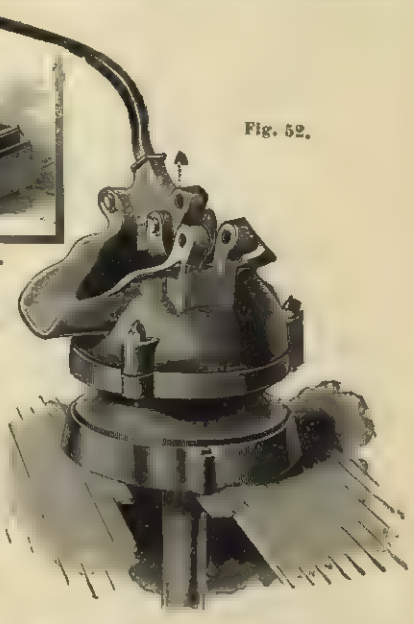


Fig. 52.



Non-Chokable Pumps.

Frictionless.

No. 187—Side Suction—Sizes, Capacities and Prices.

No. 1 Pump, for 2½ inch suction hose, capacity 1,500 gallons per hour, $20.00
No. 2 Pump, " 3 " " " " 2,500 " " 25.00

Brass nipple, couplings and strainer, $8.00 extra. Three-inch suction hose on iron couplings, made expressly for this pump, at $1.50 per foot.

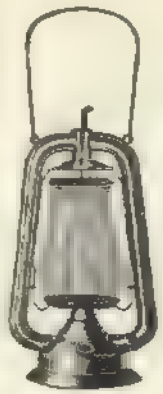
No. 186—Bottom Suction—Sizes, Capacities and Prices.

No. 1 Pump, for 2½ inch iron pipe, Capacity 1,500 gallons per hour, $18.00
No. 2 Pump, " 3 " " " " 2,500 " " 23.00

Forty cents per foot for 3-inch Iron Pipe.
This Pump has a draft of 30 feet perpendicular lift.

These Pumps will pump water containing sand, gravel, sewerage matter, etc., without choking the pump, working on a rubber diaphragm instead of a piston and plunger the action being a great deal easier than a piston pump, besides throwing a much greater volume of water to a stroke.

Tubular Lanterns.



Nos. 211 and 212.

No. 232.

No. 268.

No.	DESCRIPTION.	PER DOZEN.
[illegible]	Brass U. S. Safety, Lantern with Lift Wire Attachment, No. [illegible] Burner, for No. 0 Wick U. S. Globe	$13 50
[illegible]	Nickel U. S. Safety Lantern with Lift Wire Attachment, No. [illegible] Burner for No. 0 Wick U. S. Globe	16 50
2	Square Tube Best Lantern with Tubular Lamp Guard and Brazed Tubes, extra well made	11 00
[illegible]	Round Tube No. 0 U. S. Pattern Lantern, same as No. 2 but Round Tubes.	11 00
228	Round Tube No. 1 Safety Pendant Lantern, with Large Frame and Oil Pot, No. 2 Burner, 1 inch Wick, takes No. 1 Globe,	16 00

PACKED IN CASES OF 1 DOZEN EACH. NO CHARGE FOR PACKAGE. IN LESS THAN ONE DOZEN OF A KIND, PACKAGE CHARGED EXTRA.

We guarantee all Lanterns sold by us to be perfect in all particulars and to burn, well finished, and with all improvements up to date. Do not compare them with inferior Lanterns, that are made of poor tin, without outside fillers, faulty in construction and completed with tin Burners and rejected Globes.

Old style soldered bottom

New style seamless bottom

No. 338, Wire Bottom.

No.	DESCRIPTION	PER DOZEN.
310	R R Lantern, Solid Bottom complete with Globe and Burner for lard oil,	$12 [illegible]
D310	Same, with Burner for kerosene,	12 [illegible]
330	R R Lantern, Wire Bottom complete with Globe and Burner for lard oil,	12 00
D330	Same, with Burner for kerosene,	12 [illegible]

These Lanterns represent the best R R Lantern the market affords. They are new drawn tin throughout, and are the cheapest grade of lantern that will give satisfaction. Will burn lard oil or kerosene. Can be changed from one to the other in a few minutes. We have a Burner that will burn either kerosene or lard oil. Lantern, Nickeled, [illegible]

FOR LARD OIL.

No.	DESCRIPTION	EACH.
[illegible]	[illegible] Lantern [illegible]	$6 00
2 [illegible]	[illegible] Lantern, Nickeled	[illegible]

FOR LARD OIL.

The "Pullman" is a new and handsome design, a modern improvement on the Queen. Has new lock. Cap takes Peerless Globe. The "Queen" is very popular and a reliable and cheap lantern. Above 3 heavy tinned with fine sheet [illegible] Globes, [illegible] Lantern. Will [illegible] Globes handsomely engraved with name at following prices: Single name, old English, 40 cents flat; single name, old English with wreath, $1 [illegible]

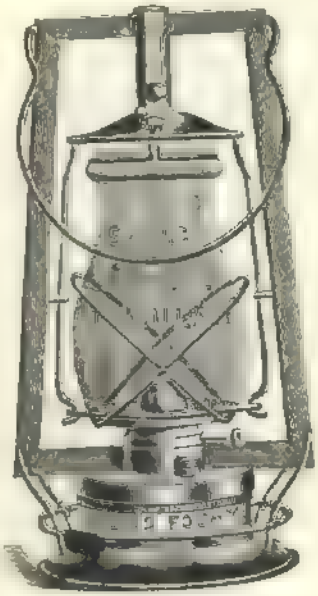
No.	DESCRIPTION.	EACH
1 [illegible]	Queen Conductor Lantern, Brass	$ [illegible]
2 [illegible]	Queen Conductor Lantern, Nickeled	12 00

FOR LARD OIL.

Lanterns.

Hand and Dash Lanterns
Search Lights

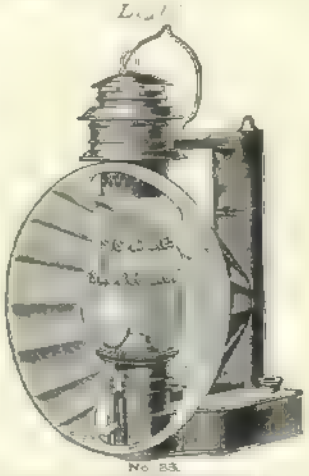
Tubular Revolving Search Light



No 888.

No.	DESCRIPTION	DOZEN.
333	Tubular Lantern, No. 0 Hinged Burner for No. 1 Wick, with Glass Fount	$12 00

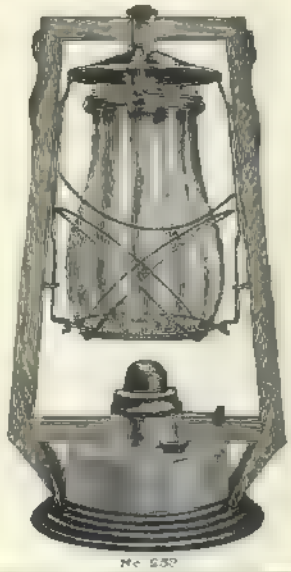
This Lantern has been [illegible] which is a cause of much annoyance, protected and cannot be broken. Handy as a Fount can be filled without removing the globe, as a glance. Packed 1 dozen in box, no charge for box, in less than 1 dozen boxing charged extra.



No 83.

No.	DESCRIPTION	EACH
35	Tubular Revolving Search Light No. 2 Burner, No. 0 Globe 12 inch Tin Reflector,	$3 00
40	Tubular Revolving Lamp, Large Size No. 3 Burner, No. 2 Tubular Globe 20 inch Tin Reflector	[illegible]

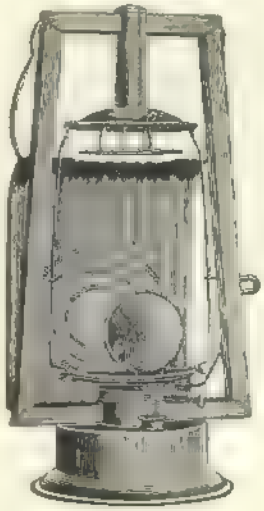
Revolving Reflector can be removed at any time by night and [illegible] in any position. Especially adapted for Mines, Factories, Lumber Yards, Railroads, Wharves, Docks and wherever a light is required. Shade [illegible] Packed one dozen in box, no charge for box. Larger sizes furnished when ordered. Weight [illegible]



No 252

No.	DESCRIPTION	DOZEN
253	Iron Clad Tubular Lantern, No. 0 Hinged Burner for No. 1 Wick	$ [illegible]

This Lantern has long been a popular [illegible] The bottom is protected by an iron cover [illegible] strong and lasting. These are well known.



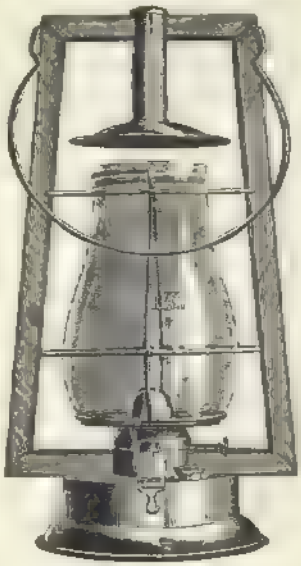
Nos. 297 and 299

No.	DESCRIPTION	DOZEN
297	Dash Lantern, Plain, with No 0 Hinged Burner and No. 0 Globe,	$10 00
299	Dash Lantern, Japanned with Red [illegible] No. 1 Tubular Globe, No 0 Hinged Burner, The Flut Lens being attached to the perforated plate is always in frost. With the flame directly between the Lens and Reflector the reflection is largely increased. Will not break from heat or in shipment.	11 50
215	Hood Reflector Lantern, Plain Tin, with No 0 Hinged Burner for No. 1 Wick, 5 inch Glass Reflector behind Globe.	9 50

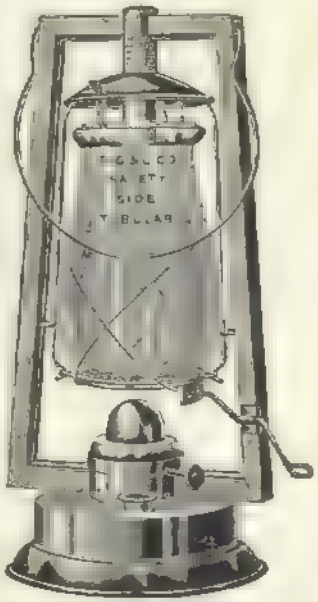
Additional Lenses [illegible] Lantern so they can be used on Dash [illegible] Packed one half dozen in box, no charge for package.

No 215

Tubular Lanterns.

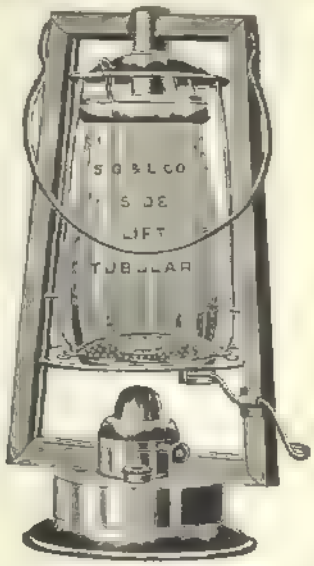


NO.	DESCRIPTION	DOZ.
249	Swinging Globe Lantern	$7 00



NO.	DESCRIPTION.	DOZ.
243	Side Lift Lantern. Extra large Oil Pot, holding nearly a Quart of Oil Has No. 2 Burner	$11 00

This Lantern gives as large a light as an ordinary Lamp. Takes No. 2 Wick and No. 0 Globe

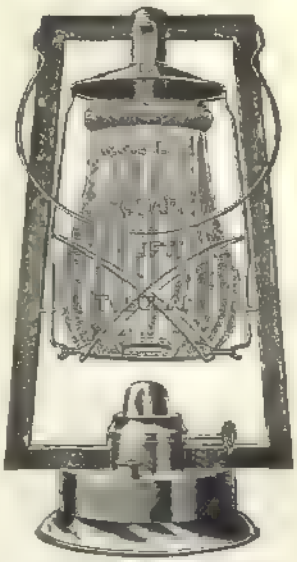


NO.	DESCRIPTION	DOZ.
242	Side Lift Regular Size,	$8 00

NO.	DESCRIPTION	DOZ.
244	Anti-Friction Lantern, Entirely New,	$9 00

The Latest and Most Attractive Line of Lanterns Ever Produced.

All the Lanterns on this page, except No. 243, take No. 0 Globes and No. 1 Wicks, and have Hinged Burners, thus preventing loss of Cap.



NO.	DESCRIPTION	DOZ.
110	Square Lift Lantern,	$ 6 00
111	Same, Copper-Plated	9 50

Packed one dozen in a case, no charge for package. In less than one dozen of a kind, package charged extra

Tubular and Rochester Street Lamps.

No. 30

No.	DESCRIPTION.	EACH.
30	Globe Tubular Hanging Lamp, with Bottom Lift, No. 3 Globe, Height, 20 in.	$5 00
D30	Same with Glass Font	6 00

Any part of this lamp can be had separately. Wick Regulator cannot be blown out.

No.	DESCRIPTION	
96	Fount and Burner, with Tubular Regulator and Glass Oil Reservoir, as above	$2 50
97	Same, all Tin,	1 50

This style of Fount fits No. 30 Street Lamps. The New Fount No. 96 will fit any of the No. 3 or No. 30 Lamps that have been previously made.

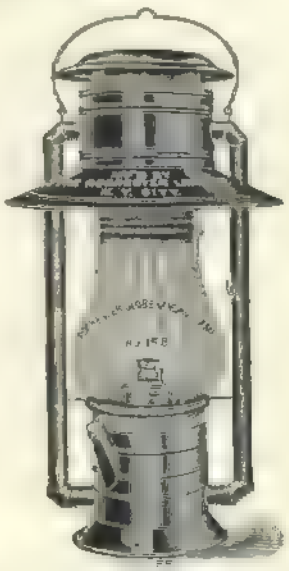
We cordially recommend the New Glass Fount for Street Lamps. We believe it will be met by universal approval

The Glass Fount will not wear or rust out. Is well protected and cannot be broken except by unusual contact. The oil supply is always visible, and when Lamp is on a post can be seen from the ground.

No. 3

No.	DESCRIPTION	EACH
3	Globe Tubular Street Lamp with Bottom Lift, No. 3 Globe, Height, 20 in.	$6 00
D3	Same with Glass Font	7 00

Any part of this lamp can be had separately. The outside Wick Regulator will not blow out.



No.	DESCRIPTION	EACH.
55	Rochester Hanging Street Lamp.	$1 00

The first and only Tubular Globe Central Draft Lamp ever made; storms, rain, snow, sleet or hail do no affect it. Burns all night.

Takes No. 2 Rochester Chimney and No. 3 Tubular Globe. Height, with Bail 26½ inches.

DESCRIPTION	EACH
Iron Street Lamp Bracket, extends 18 in.	$2 50
Turned Cedar Street Lamp Posts, length 10 feet, turned 7 feet,	2 00

Especially adapted to all Street Lamps not intended to hang.

No. 156.

No.	DESCRIPTION	EACH
65	Rochester Street Lamp for Post,	$1 00

Protected by Metal Gauze against insects or bugs. No flickering light, gives three times the light of flat wick Lamp. Height, with Post Socket, 31 inches.

A. C. Bartlett's Ohio Bench Planes.

Warranted Irons. Polished Lignumvitæ Starts.

NO.	KIND.	DESCRIPTION	EACH
3	Smooth.	2 to 2½ in., Double Irons, 8 in. long.	$0 90

NO.	DESCRIPTION	EACH
5	Handled Smooth, 2 to 2½ in., Double Irons, 10½ in. long.	$1 75

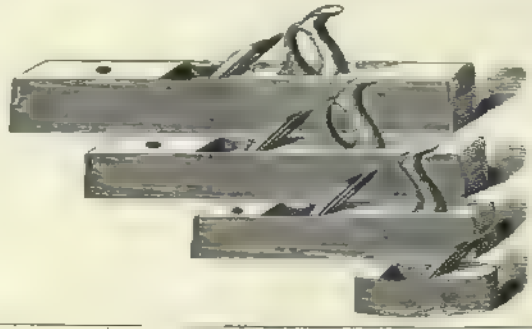
NO.	KIND.	DESCRIPTION.	EACH.
10	Jack.	2 to 2¼ inches, Single Irons, 16 inches long,	$0 75
18	"	2 to 2½ " Double " 16 " "	1 00

NO.	KIND.	DESCRIPTION	EACH
19	Fore	2⅜ to 2½ in., Double Irons, 22 in. long.	$1 40

NO.	KIND.	DESCRIPTION.	EACH
25	Jointer.	2¼ to 2⅝ in., Double Irons, 28 in long,	$1 50
25	"	2½ to 2⅝ in., " " 28 "	1 60
25	"	2⅝ to 2⅝ in., " " 30 "	1 75

Ogontz Bench Planes.

Polished Ebony Starts.

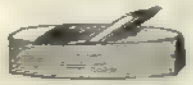


NO.	KIND.	DESCRIPTION.	EACH
8	Smooth.	2 to 2½ in., Double Irons, 8 in. long,	$0 90
12	Jack.	2 to 2½ in., " " 16 "	1 00
20	Fore.	2⅜ to 2½ in., " " 22 "	1 40
30	Jointer	2½ to 2⅝ in., " " 26 "	1 50

SMOOTH, 36 JACK, 36 FORE, 24, JOINTER, 20 IN A CASE.

A. C. Bartlett's Ohio Planes.

Tooth and Mitre Planes.



No. 38½

NO.	DESCRIPTION	EACH
38	Tooth ⅛ inch Cast Steel Iron,	$1 60
38½	Mitre Smooth Shape 1¾ inch Single Iron,	75

Dado Planes.

No. 62.

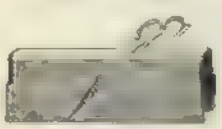
NO.	DESCRIPTION	EACH
62	Screw Stop, ¼, ½, ¾, ⅞, 1 inch and over,	$1 50

Fillet[illegible] Planes.

No. 68

NO.	DESCRIPTION	EACH
66	With Cutter,	$1 25
67	" and 3 Brass Side Stops	1 40
68	" " " " " " Boxed,	1 85
69	" " " " Screw " "	2 50

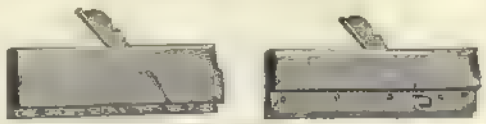
Nosing Planes.



No. 113.

NO.	DESCRIPTION	EACH
113	Nosing Stop, Irons [illegible]	$1 [illegible]
13	" " [illegible]	1 [illegible]
113	" " [illegible]	1 [illegible]

Match Planes.



One Pa[illegible] No. 99

NO.	DESCRIPTION.	PER PAIR.
99	Board Match, ¼, ⅜, ½, 1 inch	$1 25
99	Twin, ¼, ½, ¾, 1 inch,	1 25
99	" 1 inch " "	1 25

One Pair, No. 101

NO.	DESCRIPTION.	PER PAIR.
101	Board Match, with Solid Handles, ¼, ⅜, 1 inch,	$2 00
102	Board Match, with Solid Handles, Plated, ¼ 1 inch	2 25

No. 106.

NO.	DESCRIPTION	PER PAIR.
106	Plank Match, with Screw Arms, to work Grooves,	$3 50

Rabbet Planes

No. 140 S Je Handle

NO.	DESCRIPTION	EACH.
146	Skew Rabbet, ¼, ⅜, ½, ¾, 1 inch,	$0 60
146	" " 1¼ inch,	65
146	" " 1½ inch,	70
146	" " 1¾ inch,	80
146	" " 2 inch,	90
149	Jack Rabbet, with Handle and 2 Cutters, 1¼, 1½, 1¾, 2 inch.	1 70
142	Jack Rabbet with Handle or [illegible], 1¼, 1½, 1¾, 2 inch,	1 00

A. C. Bartlett's Ohio Planes.

Hollows and Rounds.

No. 2 — No. 4

No. 6

Number,	1	2	3	4	5	6	7	8	9	10	11	12
Inches,	¼	⅜	½	⅝	¾	⅞	1	1⅛	1¼	1⅜	1½	1⅝
Per pair,	$0 75	0 75	0 75	0 75	0 75	0 75	0 80	1 00	1 00	1 10	1 10	1 10

Per Set of Nine Pairs, One Pair Each, Nos. 1 to 9, inclusive, . . . $7 20

ONE PAIR IN A PACKAGE.

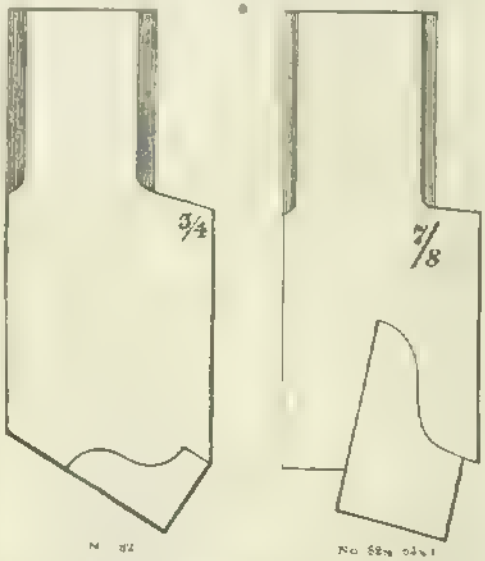
Roman Ogee Planes.

No. 70

No.	DESCRIPTION.	Each
—	Fine Work on Edge, ¼ in.	$0 75
70	" ⅜ and ½ in.	85
70	" ¾ in.	1 00
70	" 1 in.	1 15

ONE IN A PACKAGE.

Roman Reverse Ogee Planes.



No. 82 — No. 82½ and 82¾

No.	DESCRIPTION	Each
82	¼ and ⅜ inch,	$0 75
82	½ and ⅝ inch,	85
82	¾ "	1 00
82	1 "	1 15
82½ to 82¾	Welsh Fence ⅜ inch	90

ONE IN A PACKAGE.

A. C. Bartlett's Ohio Planes.

Bead Planes.

No. 47.

No. 51.

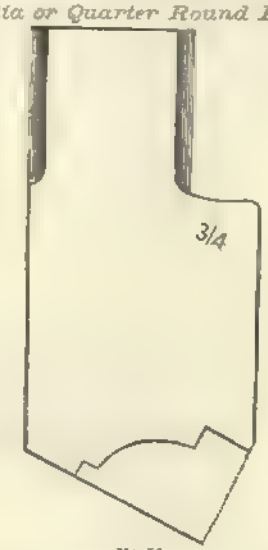
NO.	DESCRIPTION.	EACH.
47	Side, Single Boxed, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$ and $\frac{1}{2}$ in.	$0 60
47	" " " $\frac{5}{8}$ and $\frac{3}{4}$ inch,	65
47	" " " $\frac{7}{8}$ and 1 inch,	70
47	" " " $1\frac{1}{4}$ to $1\frac{1}{2}$ in.	90
47	" " " $1\frac{1}{2}$ inch,	1 00
51	Center, Double Boxed $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$ & $\frac{1}{2}$ in.	60
51	" " " $\frac{5}{8}$ and $\frac{3}{4}$ inch,	65
51	" " " $\frac{7}{8}$ inch,	80

Cove Planes.

No. 55.

NO.	DESCRIPTION	EACH.
55	$\frac{5}{8}$ and $\frac{3}{4}$ inch,	$0 50
58	$\frac{7}{8}$ and 1 inch,	65

Scotia or Quarter Round Planes.



No. 54.

NO.	DESCRIPTION	EACH.
54	$\frac{3}{4}$ inch,	$0 50
54	$\frac{7}{8}$, 1 and 1 inch,	55

Casing Moulding Planes.

No. 43½.

NO.	DESCRIPTION	EACH.
54½(48½)	With Fence, $\frac{7}{8}$ inch, to Work on Edge,	$0 90

ONE IN A PACKAGE.

A. C. Bartlett's Ohio Planes.

Table Planes.

No.	DESCRIPTION.	PER PAIR.
176	With Gauge Dovetailed, Boxed, $\frac{7}{8}$ and $\frac{1}{2}$ in.,	$2 50

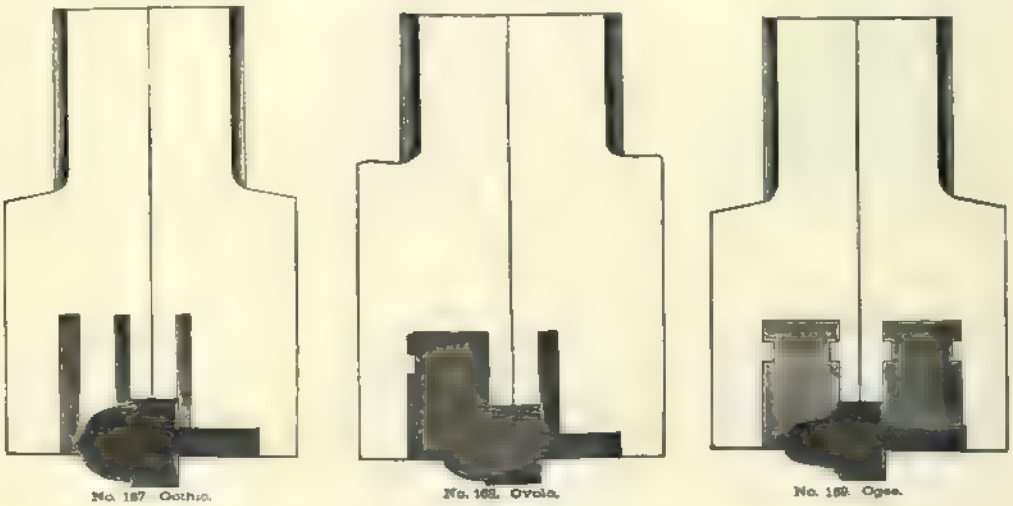
ONE PAIR IN A PACKAGE.

Panel Plows.

NO	DESCRIPTION	EACH.
117	Beech, 8 Irons, Screw Stop,	$4 50
119	Beech, 8 Irons Screw Stop with Handle,	5 50
120	Beech, 8 Irons, Screw Stop, with Handle, Boxed Fence,	5 85
123	Beech, 8 Irons, Boxwood Arms, with Handle,	6 75
124	Beech, 8 Irons, Boxwood Arms, with Handle, Boxed Fence,	7 00
125	Applewood, 8 Irons, Screw Stop, with Handle, Boxed Fence,	6 75
192	Box or Rosewood, 6 Irons, with Handle,	9 00
139	Box or Rosewood, 8 Irons, with Handle, Ivory Tipped,	10 00

ONE IN A BOX.

Sash Planes.



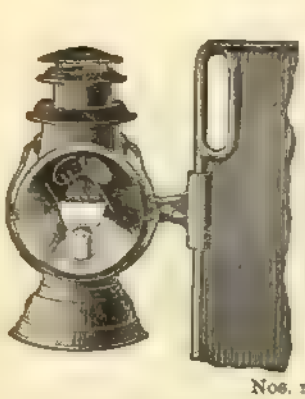
No. 167 Gothic. No. 168. Ovolo. No. 169. Ogee.

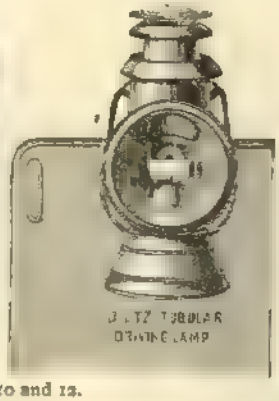
NO.	DESCRIPTION.	EACH.
167	Screw Arms, Self Regulating, Boxed, Gothic,	$2 00
168	Screw Arms, Self-Regulating, Dovetailed, Boxed, Ovolo,	2 25
169	Screw Arms, Self-Regulating, Dovetailed, Boxed, Ogee,	2 25

ONE IN A PACKAGE.

"Dietz" Lamps and Lanterns.

For Kerosene.

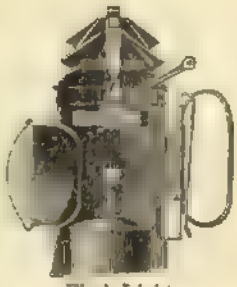




Nos. 10 and 12.

No.		Per Dozen
10.	Driving Lamp, Japanned,	$30.00
12.	Driving Lamp, Nickel,	36.00

Bull's Eye.



Flash Light

No.		Per Dozen
1.	2½ inch Bull's Eye, Common,	$5 00
2.	3 inch Bull's Eye, Common,	5 50
3.	2½ inch Bull's Eye, Flash Light,	6.00
4.	3 inch Bull's Eye, Flash Light,	6.50

Small Brass Lanterns.

No. 113 "Baby."

No. 115 "Boy."

No. 112 "Racket."

No. 107 U. S.

113.	"Baby," 4½ inches High, Fire Fly Burner,	2 00
115.	"Boy," 6 inches High, No. 0 Convex Burner,	5 00
112	"Racket" 8 inches High, No 1 Convex Burner,	6.00
107.	U. S. Brass Tubular, No. 0 Burner, U. S. Globe,	10 00

Conductor Lanterns.

No. 3

No. 8.

3	Nickel Plated, Solid Bottom,	60.00
8	Nickel Plated, Wire Bottom.	72.00

Rail Road Lanterns

No 39.

No. 139.

39.	Double Guard, Solid Bottom,	7 00
139.	Double Guard, Wire Bottom,	7 00

One Dozen in a Case

Dietz Street Lamps.

For Kerosene.

No. 3 Street.

Glass Oil Fount.

For No. 3 Street Lamp.

	Per Dozen
Founts for No. 2 Square,	$16 00
Founts for No. 2 Globe,	12 00
Founts for No. 3 Globe,	13 50
Glass Founts for No. 3 Globe,	18 00

No. 3 Hanging.

Time Regulator.

No.		Each.
3.	Globe Street, with Tin Front,	$4.00
3.	Globe Street, with Glass Front,	4 50

Takes No. 3 Burner, No. 3 Globe.

No.		Each
2.	Globe Hanging,	$3.00

Takes No. 2 Burner, No. 2 Globe.

3.	Globe Hanging,	3 50

Takes No. 3 Burner, No. 3 Globe.

No. 2 Street.

"Corporation."

		Each
2.	Square Tubular Street,	$6.00

Takes No. 3 Burner.

No. 2 Side and Hanging.

Corporation Street, Glass Fount, ... $3 20
Takes No. 2 Burner and Chimney.

2.	Globe Side and Hanging Lamp,	$3 75

Takes No. 2 Burner, No. 2 Globe.

3.	Globe Side and Hanging Lamp,	4 50

Takes No. 3 Burner, No. 3 Globe.

Lamp Posts.

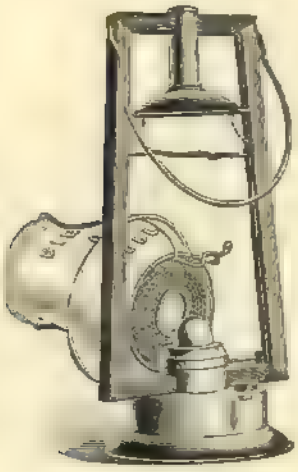
Turned Cedar Posts for Street Lamps, . . . $2.00

Lamp Brackets.

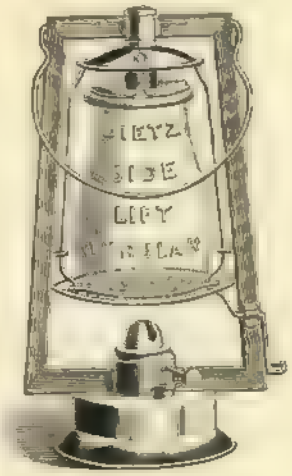
Iron Brackets for Street Lamps, ... $1.00

"Dietz" Tubular Lanterns.

For Kerosene.



No. 95 "O.-K."



No. 96 "Victor."

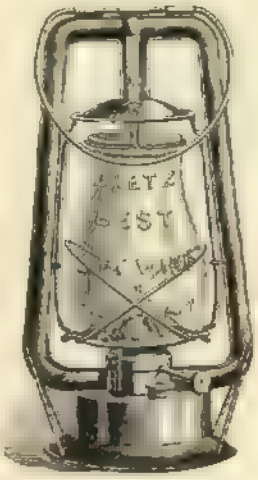
No. 94 "Star."

No.		Per Dozen
95.	"O.-K." Hinged Globe. No. 1 Burner, No. 0 Globe,	$5.50
96.	"Victor" Side Lift. No. 1 Burner, No. 0 Globe,	5.75
94.	"Star" Square Lift. No. 1 Burner, No. 0 Globe,	6.00

One dozen in a Case.

No. 97.

No. 115 Royal.



No. 101.

97.	"Antifriction" Top Crank. No. 1 Burner, No. 0 Globe,	6.50
115.	"Royal," Large Oil Pot. No. 2 Burner, No. 0 Globe,	9.00
101.	Best Round Lift. No. 1 Burner, No. of Globe,	8.50

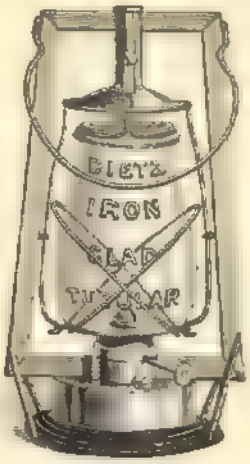
Dozen in a Case.

"Dietz" Tubular Lanterns.

For Kerosene.

No. 120. "Crystal."

No. 117. "Mill."



No. 118. "Iron Clad."

No.		Per Dozen
120.	"Crystal," Glass Fount, No. 1 Burner, No. 0 Globe,	$9.50
118.	"Iron Clad," Iron Bottom, No. 1 Burner, No. 0 Globe,	9.00
117.	"Mill," Large Fount, No. 2 Burner, No. 0 Globe,	18.00

One Dozen in a Box.

No. 117 has been indorsed by Insurance men wherever shown as the Safest Kerosene Burning Lantern Made.
Will Burn 19 hours without Refilling.

No. 102. "Hood Reflector."

No. 15. "Side Lamp."

No. 13. "Buckeye Dash."

102.	"Hood Reflector," No. 1 Burner, No. 0 Globe, Silver Glass Reflector,	16.00
13.	"Buckeye Dash," No. 1 Burner, No. 0 Bull's Eye Globe, Japanned,	10.50
15.	"Side Lamp," No. 1 Burner, No. 0 Globe, with 5 inch Reflector,	12.00
17.	"Side Lamp," No. 2 Burner, No. 0 Globe, with 6 inch Reflector,	15.00
	Dash Board Attachments for Attaching any Tubular to Dash Board,	2.40

Half Dozen in a Box.

"Dietz" Mill and Station Lamps.

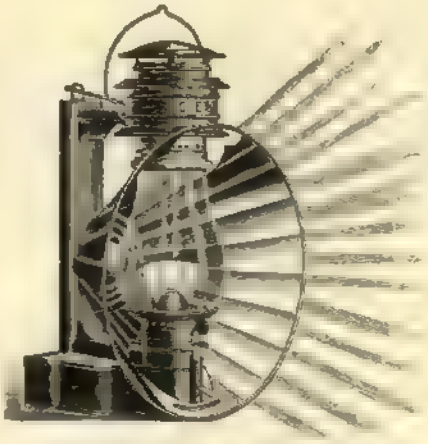
Tubular Mill Lamps.

No Chimneys.

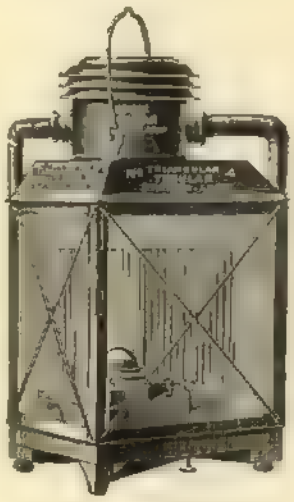
Square Lamp.

No.		Each
1.	Square Mill 19 in.,	$3.50
	No. 2 Burner.	
2.	Square Mill, 21½ in.,	4.50
	No. 3 Burner.	
3.	Square Mill, 26 in.,	5.00
	No. 3 Burner.	

One in a Case.



No. 30. Search Light.



Triangular Lamp.

No.		Each
4.	Triangular Mill, 22 in.,	$6.00
	No. 3 Burner.	

One in a Case.

No.		Per Dozen
30.	Revolving Search Light, .	$20.00
	12 inch Reflector, No. 2 Burner, No. 0 Globe.	
60.	Revolving Search Light, .	48.00
	18 inch Reflector, No. 3 Burner, No. 2 Globe.	

The reflector adjusts to throw the light in any Direction.

No. 1. Square Station.

No. 2. Triangular Station.

No.		Each
1.	Square Station, 8 x 10 in., .	$2.00
	No. 1 Burner, 7 inch Reflector.	
2.	Square Station, 10 x 14 in., .	2.40
	No. 2 Burner, 8 inch Reflector.	
3.	Square Station, 12 x 16 in., .	2.80
	No. 2 Burner, 10 inch Reflector.	

One in a Case.

No.		
2.	Triangular Station, 10 x 14 in.,	2.50
	No. 2 Burner, 8 inch Reflector.	
3.	Triangular Station, 12 x 16 in., .	3.00
	No. 2 Burner, 10 inch Reflector.	

One in a Case.

IDEAL WIND MILLS—BACK GEARED AND DIRECT STROKE.

Made Wholly of Steel—Galvanized after Construction.

For Public and Private Water Supply, Irrigation and General Service.

Eight sizes—4, 6, 8, 9, 10, 12, 14 and 16 foot diameter, BACK GEARED; two sizes of the DIRECT STROKE, or ungeared style, 10 and 12 foot diameter.

Cut shows side view in the wind.

The IDEAL line of mills represents the latest and best achievements in wind mill construction. The cut hereon shows the Standard Back Geared pattern of 1895. It is claimed to develop more power and to be more durable in use than any other in the market.

We use an internal gear, very strong and *wholly enclosed against dirt or sleet.* The wheel shaft is above the gear shaft, which arrangement takes up the wear in boxes and gear, and makes the weight of wheel balance the working of pump or other load on mill. The usual tendency of gearing is to spread out of mesh, and thus wear rapidly. We overcome this effectually in our arrangements of shafts, and the use of internal gear.

BACK GEARED MILLS FOR GENERAL SERVICE.

4 Foot, Back Geared, 5½ to 1. Adapted for residence, to pump from cistern into tank in attic; also for shallow wells in pasture. Price, $14.00.

6 Foot, Back Geared, 4 to 1.—Will take the place of a 10 foot direct stroke mill. It will lift water 75 feet with 2 inch cylinder, 50 feet with 2½ inch, 25 feet with 3 inch, and where the lift is less the size of cylinder can be increased. Price, $21.00.

8 Foot Back Geared, 2½ to 1.—Ordinary farm size. Frequently used for suburban residence on tank towers, is capable of lifting water 200 feet when connected to 1¾ inch cylinder, or 100 feet with 2¾ inch cylinder, and 50 feet with a 4 inch cylinder. Price, $28.00.

9 Foot, Back Geared, 2½ to 1.—Gives from 15 to 20 per cent. more power than the 8 foot, works successfully on wells 200 feet deep, using 2 inch cylinder. Price, $33.00.

10 Foot, Back Geared 2½ to 1.—Will operate a 1¾ inch cylinder on 300 feet lift, 2¼ inch on 200, 3 inch on 100, and larger sizes on shallower lift. ☞ For **irrigation** purposes it will successfully operate a cylinder 10 inches in diameter on a 10 foot lift, 8 inches on a 15 foot lift, and 6 inches, 25 feet. Price, $38.00.

12 Foot and 14 Foot, Back Geared, 2½ to 1. These sizes are intended for deep wells and Ranch work, or for pumping large quantities of water for stock or other use. Are well proportioned and capable of doing a large amount of work. Price, 12 feet, $53.00; 14 feet, $78.00.

DIRECT STROKE MILLS—FOR PUMPING AND GENERAL SERVICE.

10 Foot and 12 Foot, Direct Stroke. Some prefer plain mills without gearing, where the wheel makes one revolution to each stroke of the pump. These two sizes cover the general demand. Price, 10 foot, $35.00; 12 foot, $45.00.

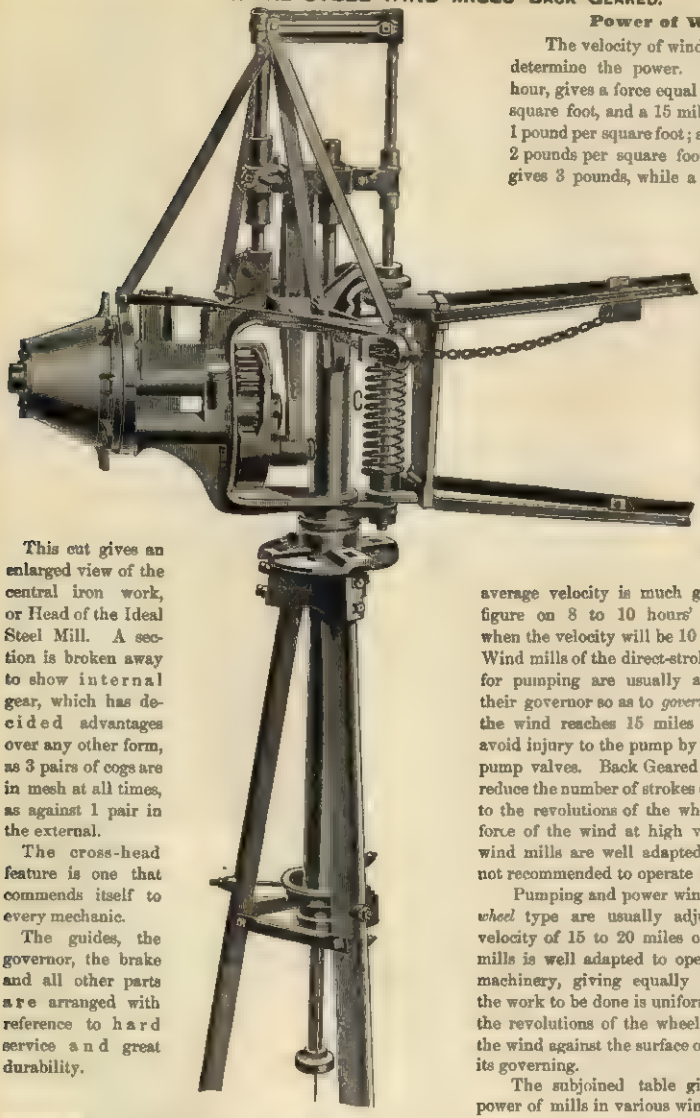
SPECIAL IRRIGATING MILLS.—BACK GEARED.

12 Foot, 14 Foot and 16 Foot, Back Geared, 2½ to 1. Special patterns, extra heavy, have been made for the three sizes here given, and all parts are strong and heavy, capable of enduring continuous hard service, such as is required of irrigation machinery. The shafts and wrist pins are large and strong, and the governor is arranged to hold the mill into a 35 to 40 mile wind, and do its work perfectly. Price of 12 foot mill, $63.00; 14 foot mill, $88.00; 16 foot mill, $125.00.

POWER MILLS WITH SECTIONAL WHEELS.

12 and 14 Foot, Galvanized or Wood Wheels, as Preferred. These two sizes are sufficient for general farm work, and will operate wood saws, feed cutters, feed grinders, shellers, etc. A separate pamphlet on power mills gives full particulars. Prices on application.

IDEAL STEEL WIND MILLS—BACK GEARED.



This cut gives an enlarged view of the central iron work, or Head of the Ideal Steel Mill. A section is broken away to show internal gear, which has decided advantages over any other form, as 3 pairs of cogs are in mesh at all times, as against 1 pair in the external.

The cross-head feature is one that commends itself to every mechanic.

The guides, the governor, the brake and all other parts are arranged with reference to hard service and great durability.

Power of Wind Mills.

The velocity of wind and diameter of wheel determine the power. An 8 mile wind, per hour, gives a force equal to nearly ½ pound per square foot, and a 15 mile wind gives a force of 1 pound per square foot; a 20 mile gives a force of 2 pounds per square foot, and a 25 mile wind gives 3 pounds, while a 30 mile wind gives a force of about 4½ pounds per square foot of wheel surface. The force of the wind increases or decreases in the ratio of *the squares of the velocities*. A 20 mile wind is twice as efficient as a 15 mile wind. The mean average velocity throughout the United States is a little less than 8 miles per hour. In certain sections, as along the sea coast and throughout the plains and table lands, the average velocity is much greater. It is safe to figure on 8 to 10 hours' work out of the 24 when the velocity will be 10 to 15 miles per hour. Wind mills of the direct-stroke type, when intended for pumping are usually adjusted by regulating their governor so as to *govern* when the velocity of the wind reaches 15 miles per hour. This is to avoid injury to the pump by too rapid action of the pump valves. Back Geared mills, being geared to reduce the number of strokes of the pump, relatively to the revolutions of the wheel, utilize the greater force of the wind at high velocities. *Solid wheel* wind mills are well adapted to pumping, but are not recommended to operate machinery.

Pumping and power wind mills of the *sectional wheel* type are usually adjusted to govern at a velocity of 15 to 20 miles of wind. This type of mills is well adapted to operate either pumps or machinery, giving equally good results whether the work to be done is uniform or irregular, because the revolutions of the wheel, and not the force of the wind against the surface of the wheel, determine its governing.

The subjoined table gives the approximate power of mills in various winds:

Size of Mill.	Velocity of Wind.	Horse Power.	Velocity of Wind.	Horse Power.	Velocity of Wind.	Horse Power	Velocity of Wind	Horse Power
	Miles.		Miles.		Miles.		Miles	
8 foot	8 to 10	⅛ to ¼	10 to 15	¼ to ⅝	15 to 20	⅝ to 1	20 to 25	1 to 1¼
10 foot	8 to 10	¼ to ⅜	10 to 15	⅝ to 1⅛	15 to 20	1⅛ to 1¾	20 to 25	1½ to 2
12 foot	8 to 10	⅜ to ⅝	10 to 15	⅞ to 1⅞	15 to 20	1⅞ to 2⅝	20 to 25	2½ to 4
14 foot.	8 to 10	½ to 1	10 to 15	1 to 2	15 to 20	2 to 4	20 to 25	4 to 6
16 foot.	8 to 10	1 to 2	10 to 15	2 to 4	15 to 20	4 to 8	20 to 25	8 to 12

Send for special pamphlet on Wind Mills, stating service required.

TABLE SHOWING SIZE OF MILLS REQUIRED

For Operating Cylinders of a Given Diameter, Lifting Water from 5 to 500 Feet, also Pumping Capacities, per Hour, of Ideal Wind Mills, Back Geared.

Lifting Water	Eight-foot Mill, has 4, 6 and 8-inch Stroke.	Number of Cylinders to use.	Diameter of Cylinders and Discharge Pipe to use	Ten foot Mill, has 6, 8 and 10-inch Stroke.	Number of Cylinders to use.	Diameter of Cylinders and Discharge Pipe to use	Twelve foot Mill, has 9 and 12-inch Stroke.	Number of Cylinders to use.	Diameter of Cylinders and Discharge Pipe to use	Fourteen-foot Mill has 10 and 14-inch Stroke.	Number of Cylinders to use.	Diameter of Cylinders and Discharge Pipe to use	Sixteen-foot Mill, has 12 and 16-inch Stroke.	Number of Cylinders to use. Diam. of Cylinders and Dis. Pipe to use
			In.			In.			In.			In.		In.
5′	164 barrels **4935** Gallons.	1	12	329 barrels **9870** Gallons.	1 or 2	15 12	658 barrels **19740** Gallons.	1 or 4	24 12	1316 barrels **39480** Gallons.	2 or 8	24 12	2632 barrels **78960** Gallons.	4 or 16	24 12
10′	73 barrels **2193** Gallons.	1	8	164 barrels **4935** Gallons.	1	12	329 barrels **9870** Gallons.	1 or 2	15 12	658 barrels **19740** Gallons.	1 or 4	24 12	1316 barrels **39480** Gallons.	2 or 8	24 12
15′	56 barrels **1700** Gallons	1	7	92 barrels **2770** Gallons.	1	9	164 barrels **4935** Gallons.	1	12	329 barrels **9870** Gallons.	1 or 2	15 12	820 barrels **24675** Gallons.	1 or 5	24 12
20′	41 barrels **1233** Gallons.	1	6	73 barrels **2193** Gallons.	1	8	114 barrels **3427** Gallons.	1	10	329 barrels **9870** Gallons.	1 or 2	15 12	658 barrels **19740** Gallons.	1 or 4	24 12
25′	28 barrels **856** Gallons.	1	5	56 barrels **1700** Gallons.	1	7	92 barrels **2775** Gallons.	1	9	164 barrels **4935** Gallons.	1	12	492 barrels **14805** Gallons.	1 or 3	20 12
35′	23 barrels **694** Gallons.	1	4½	41 barrels **1233** Gallons.	1	6	73 barrels **2193** Gallons.	1	8	164 barrels **4935** Gallons.	1	12	328 barrels **9870** Gallons.	1 or 2	18 12
50′	13 barrels **419** Gallons.	1	3½	28 barrels **856** Gallons.	1	5	55 barrels **1700** Gallons.	1	7	144 barrels **3427** Gallons.	1	10	164 barrels **4935** Gallons	1	12
75′	10 barrels **308** Gallons.	1	3	23 barrels **694** Gallons.	1	4½	34 barrels **1036** Gallons.	1	5½	73 barrels **2193** Gallons.	1	8	164 barrels **4935** Gallons.	1	12
100′	7 barrels **224** Gallons.	1	2½	13 barrels **419** Gallons.	1	3½	23 barrels **694** Gallons.	1	4½	56 barrels **1700** Gallons.	1	7	144 barrels **3427** Gallons.	1	10
125′	5 barrels **173** Gallons.	1	2¼	12 barrels **361** Gallons.	1	3¼	18 barrels **548** Gallons	1	4	41 barrels **1233** Gallons	1	6	73 barrels **2193** Gallons	1	8
150′	4 barrels **137** Gallons.	1	2	10 barrels **308** Gallons.	1	3	16 barrels **482** Gallons.	1	3¾	34 barrels **1036** Gallons.	1	5½	73 barrels **2193** Gallons.	1	8
175′	.....	.....	.....	8 barrels **259** Gallons.	1	2¾	13 barrels **419** Gallons.	1	3¼	28 barrels **856** Gallons.	1	5	56 barrels **1700** Gallons.	1	7
200′	.....	.....	.....	7 barrels **224** Gallons.	1	2½	12 barrels **361** Gallons.	1	3¼	28 barrels **856** Gallons	1	5	56 barrels **1700** Gallons.	1	7
225′	.....	.....	.....	7 barrels **224** Gallons.	1	2½	10 barrels **308** Gallons.	1	3	23 barrels **694** Gallons.	1	4½	41 barrels **1233** Gallons.	1	6
250′	.....	.....	.....	5 barrels **173** Gallons.	1	2¼	8 barrels **259** Gallons.	1	2¾	23 barrels **694** Gallons	1	4½	41 barrels **1233** Gallons.	1	6
300′	.....	.....	.....	4 barrels **137** Gallons.	1	2	7 barrels **224** Gallons.	1	2½	18 barrels **548** Gallons.	1	4	34 barrels **1036** Gallons.	1	5½

Above estimates are based on wind velocity of 15 miles an hour, mill placed directly over well, and pumping from open water, with mill working on longest stroke.

Pumps work heavier on drive well points than from open water. Where drive well points are used care must be taken not to use cylinders too large or of greater capacity than the supply of water. Where drive well points are used a 6-inch cylinder for an 8-foot mill and 8-inch cylinder for a 10-foot mill, is as large in diameter as should be used even in the shallowest lift, but these sizes of cylinders may be used with these mills up to 20-foot lift. When a large quantity of water is to be pumped, as in draining land or in supplying water for irrigation, best results are obtained by using one large cylinder (size given in table), and using for suction and discharge pipe same diameter as cylinder.

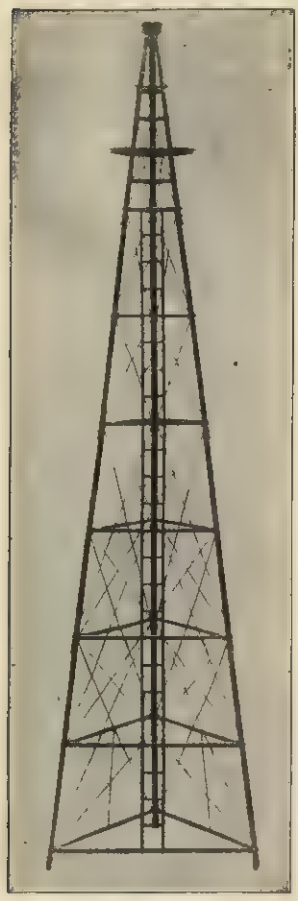
IRRIGATION TABLE.

Giving Capacity in Gallons, per Hour, of Different Sizes Pumps, and Equivalent in Miners' Inches. Also Irrigating Acreage, and Power Required per Foot of Lift.

Gallons per Hour	Miners' Inches	Number of Acres will cover 1-inch deep in 10 Hours.	Approx. Horse Power required per foot lift.	Gallons per Hour.	Miners' Inches	Number of Acres will cover 1-inch deep in 10 Hours.	Approximate Horse Power required per foot lift.	Gallons per Hour.	Miners' Inches	Number of Acres will cover 1-inch deep in 10 Hours.	Approximate Horse Power required per foot lift.
500	42	.019	.004	4 000	333	1 4	.027	9,000	750	3.3	.06
1,000	84	.37	.007	4, 00	375	1.66	03	10 000	833	3 7	.067
1 500	125	.55	.01	5,000	417	1.8	.034	15 000	1,250	5.5	.1
2,000	167	.74	014	6 000	500	2 2	04	20 000	1.666	7 4	.134
2,500	217	.92	.017	7,000	583	2.6	.047	25 000	2.083	9 2	.167
3 000	250	1.11	.02	8,000	667	3.	054	30,000	2.500	11 1	2
3,500	292	1 28	024	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—A miner's inch of water is considered in these tables as 12 U. S. gallons per minute. If considered as 9 1. 8 gallons per minute increase our estimate one-third. Our estimate of approximate horse power required per foot lift also makes an allowance of ¼ per cent for friction of water in pipes, etc. The efficiency of small engines or motors of any type cannot be safely accepted on as close estimates as larger powers.

IDEAL GALVANIZED STEEL WINDMILL TOWERS.



3 and 4 Posts.

The illustration represents a 40-foot IDEAL Tower of the 3-POST PATTERN. They are the strongest towers yet designed for resisting the force of a heavy wind, or sustaining a load under transverse strain.

Sixty degree angle-steel corner posts are securely bolted together, and supported every five feet by strong angle girths, the whole incorporated into one unit of great strength by cable braces, self-adjusting, under varying degrees of heat and cold, forming the most rigid and reliable wind mill tower yet constructed.

Our four-post galvanized steel tower, constructed in the same manner, is guaranteed to be of greater strength than any other four-post tower on the market; but we lay special emphasis on the three-post design, on account of its peculiar strength as compared with any other form of construction.

PRICE LIST THREE-POST GALVANIZED STEEL TOWERS.

	For 4 Foot Mill		For 6 Foot Mill.		For 8, 9 and 10 Foot Mills.		For 12 Foot Mill.		For 14 Foot Mill		For 16 Foot Mill	
Height, Feet	Weight, Pounds	Price.	Weight, Pounds.	Price.	Weight, Pounds.	Price.	Weight, Pounds.	Price.	Weight, Pounds.	Price.	Weight, Pounds.	Price.
10	67	$4 25	127	6 25	183	7 50	168	9 00	251	11 00	328	16 00
20	163	7 50	238	11 00	250	11 50	325	15 50	459	21 00	630	29 00
30	277	12 50	369	16 00	393	17 50	497	25 00	705	32 50	960	45 00
40	401	17 50	519	22 50	554	25 00	695	34 00	985	45 00	1343	62 50
50	540	23 25	697	30 00	750	34 00	941	45 00	1324	62 50	1777	81 00
60	677	30 00	894	40 00	980	44 00	1212	59 00	1780	81 00	2281	100 00
70	864	39 00	1164	50 00	1269	56 00	1571	75 00	2323	105 00	2918	125 00
80	1080	47 50	1487	65 00	1618	72 50	1988	95 00	2982	130 00	3668	160 00

FOUR-POST GALVANIZED STEEL TOWERS.

These are furnished, where preferred, for 8 foot mills and larger. Where it is desired to support a tank within the tower, under the mill, the FOUR-POST pattern must be used.

For price of Four Post Towers, to support mill only, add 12½ per cent. to above list for any size selected. Towers for *Power Mills* will be quoted specially.

TANK TOWERS, FOUR-POST, GALVANIZED STEEL.

For 8, 9 and 10 Foot Ideal Mills.

Height, feet	30	40	50	60	70	80
To elevate tank, feet	10	20	30	40	50	60
Price for 25 barrel tank	$29 00	44 00	59 00	79 00	104 00	131 00
Weight, pounds	640	955	1315	1797	2286	2902
Price for 60 barrel tank	50 00	69 00	92 00	122 00	153 00	... ...
Weight, pounds	1145	1613	2152	2781	3510	.....

Tank Towers for larger mills quoted on application.

Wood sills for supporting tank in tower are furnished without extra charge.

GALVANIZED STEEL ANCHOR POSTS FOR THREE-POST TOWERS.

Height of Tower, feet	20	30 and 40	50 and 60	70 and 80
For 4 to 10 foot Mills, per set	$2 00	$2 20	$2 50	$2 75
Weight, pounds, per set	49	63	62	67
For 14 Foot Mill per set	$3 75	$4 40	$4 75	$5 50
Weight pounds per set	97	117	127	187
For 16 Foot Mill, per set	$5 00	$5 65	$6 25	$6 90
Weight, pounds, per set	135	158	172	188

GALVANIZED STEEL ANCHOR POSTS FOR FOUR-POST TOWERS.

Height of Tower	20	30 and 40	50 and 60	70 and 80
For 8, 9 and 10 Foot Mill, per set	$2 25	$2 40	$2 75	$3 00
Weight pounds	50	55	65	71
For 12 Foot Mills, per set	$3 00	$3 50	$3 75	$5 00
Weight pounds	76	82	95	135
For 14 Foot Mills, per set	$4 40	$5 30	$5 60	$6 65
Weight pounds	124	147	157	189

CAST IRON ANCHOR PLATES.

12 inch diameter, per set, for 3-post towers, weight 30 pounds	$0 75
12 inch diameter, per set, for 4-post towers, weight 40 pounds	1 00
15 inch diameter, per set, for 3-post towers, weight 50 pounds	1 25
15 inch diameter, per set, for 4-post towers, weight 65 pounds	1 35

RESERVOIR TANK—CLOSED TOP, FOR RAILROAD AND VILLAGE USE.

All our tanks are built of common white pine or cypress, selected to exclude loose knots and "shakey" boards; small knots will be bored out, and the holes plugged. All tanks with three inch staves have lug hoops; with two inch staves, riveted hoops, unless otherwise specified. We guarantee as good material and work in our tanks as offered by other manufacturers at like prices. Special tight work, for indoor use, etc., will be figured upon specially.

Round Tanks—3-inch Lumber. Lug Hoops.

Length of staves. Feet.	Diameter of bottom Feet	Number Hoops	Gallons	Barrels	Approximate weight Pounds	Price.
10	12	8	7 007	222	4,000	$ 118 00
12	12	9	8 499	270	4 500	138 00
10	14	8	9 721	308	4,900	142 00
12	14	9	11.789	374	5,300	160 00
10	16	8	12.875	409	6,400	180 00
12	16	9	16 017	496	6,700	198 00
14	16	10	18 357	582	7,500	220 00
12	18	9	19,982	634	7,500	225 00
14	18	10	23,487	745	8,600	255 00
16	18	12	26,992	857	9,500	288 00
12	20	9	24,884	790	9,000	285 00
14	20	10	29,249	922	11,000	315 00
16	20	12	33,614	1,067	12,500	350 50
14	22	11	35.843	1,131	12,500	365 00
18	22	14	46,233	1,469	14,500	445 00
16	24	13	49,037	1,557	14,500	462 00

TOWER TANKS, AND ELEVATED CISTERNS.

This cut shows a special tank for wind mill towers, made with taper to fit inside of four post steel towers. In ordering, give the diameter of the bottom and length of stave. We will then arrange the taper to fit the tower; the capacity will be a little less than given in the list of regular tanks, on account of the taper. Extra strength of tower must be used to support the tank. A piece of gas pipe is arranged in the center of tank for pump rod to work through. Prices same as on page 477.

Tower and Cistern Tank.

TANK ROOFS, OR COVERS.

Covers made of one inch lumber, matched, ornament at top.

		PRICE.
12 ft.	diameter	$13 20
14 ft.	"	17 35
16 ft.	"	25 00
18 ft.	"	35 00
20 ft.	"	48 00
22 ft.	"	65 00

Covers made with rafters and shingled.

		PRICE.
14 ft.	diameter	$ 67 00
16 ft.	"	81 50
18 ft.	"	100 00
20 ft.	"	134 00
22 ft.	"	175 00

RAILROAD TANK FIXTURES AND VALVES.

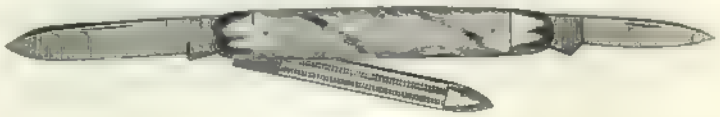
	6 in.	7 in.
Fixtures for 16 ft. diam. Tank	$65 00	$75 00
" " 20 ft. " "	70 00	80 00
" " 24 ft. " "	75 00	85 00
" " 30 ft. " "	82 50	92 50
Tank Outlet Valves	12 00	15 00
Tank Float Valves for 1¼ inch Pipe		1 00
" " " " 1½ inch "		1 25
" " " " 2 and 2½ inch Pipe		4 00
" " " " 3 inch Pipe		5 00

Pocket Knives.

Ulster Knife Co's, Warranted.

No. 2164.

NO.	DESCRIPTION	PER DOZEN
2164	Two Blades, Shell Handle, Brass Lined, Crocus Polished, 2½ inches,	$ [illegible]
2165	" " Pearl " " " " " 2⅝ "	9 75

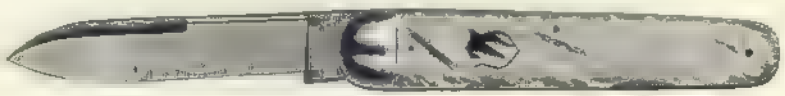


NO.	DESCRIPTION.	PER DOZEN
3142	Three Blades, Pearl Handle, Brass Lined, with Patent Nail File, 2⅝ inches,	$18 00

NO.	DESCRIPTION.	PER DOZEN
2186	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	$10 90

No. 3139

NO.	DESCRIPTION.	PER DOZEN
3139	Three Blades, Shell Handle, Brass Lined, Crocus Polished, 3 inches,	$18 00
3141	" " Pearl " " " " Spear Point Blade, 3 in.	18 75
3140	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3 inches,	20 25



NO.	DESCRIPTION.	PER DOZEN
3138	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3⅝ inches,	$24 00

HALF DOZEN IN A BOX.

Pocket Knives.

George Wostenholm & Son's Cutlery—I·XL.

No. 13804.

NO.	DESCRIPTION.	PER DOZEN.
13[illegible]	Two Blades, Cocoa Handle, Brass Lined, [illegible]	$[illegible]
13[illegible]	" " Buffalo " " "	[illegible]
13[illegible]	" " [illegible] " " "	[illegible]
13[illegible]	" " Buffalo " " "	[illegible]

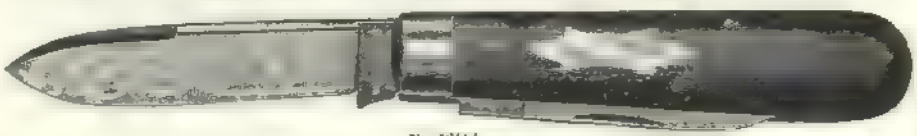
No. 9800.

NO.	DESCRIPTION.	PER DOZEN.
98[illegible]	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished	$[illegible]
98[illegible]	" " Buffalo " " "	[illegible]
98[illegible]	" " Wood Bone " " "	[illegible]

NO.	DESCRIPTION.	PER DOZEN.
[illegible]	Two Blades, Stag Handle, Iron Lined, Ornamental Silver Cap, Crocus Polished	$[illegible]

No. 14888.

NO.	DESCRIPTION.	PER DOZEN.
17[illegible]	Two Blades, Stag Handle, Iron Lined, 3[illegible]	$18 00
14[illegible]	" " " " " Crocus Polished 3[illegible]	19 50



No. 16144.

NO.	DESCRIPTION.	PER DOZEN.
16[illegible]	Two Blades, Cocoa Handle, Brass Lined, [illegible]	$[illegible]
16144	" " Buffalo " " "	[illegible]
12940	" " " " " Crocus Polished 3[illegible]	[illegible]
16140	" " Wood Bone " " "	[illegible]
14[illegible]	" " Stag " " "	[illegible]

HALF DOZEN IN BOX.

Pocket Knives.

George Wostenholm & Son's Celebrated I*XL.

NO.	DESCRIPTION.	PER DOZEN.
[illegible]	Two Blades, Stag Handle, Brass Lined, Crocus P[illegible]	$[illegible]

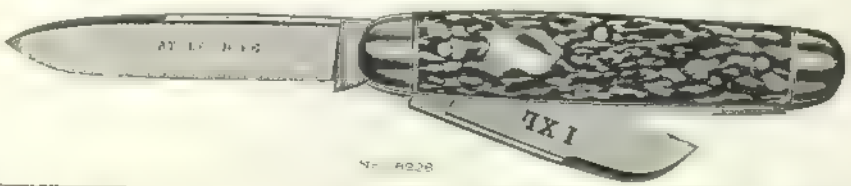
NO.	DESCRIPTION.	PER DOZEN.
[illegible]	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3 inches,	$10 25

No. [illegible]

NO.	DESCRIPTION	PER DOZEN.
2013	Two Blades, Ebony Handle, Brass Lined 3 inches,	$13 00
2033	" " " " with Shield 3 inches,	13 [illegible]
2043	" " Stag " " " "	15 00

No. [illegible]

NO.	DESCRIPTION	PER DOZEN.
[illegible]	Two Blades, Ebony Handle, Brass Lined, Crocus Polished Blades,	$ 7 50
[illegible]	Buffalo " " " "	[illegible]
[illegible]	Stag " " " "	[illegible]
[illegible]	[illegible] " " " "	15 00



No. [illegible]

NO.	DESCRIPTION	PER DOZEN.
[illegible]	Three Blades, Stag Handle, Brass [illegible]	$[illegible] 00
[illegible]	" " " " " "	[illegible] 95
[illegible]	" " " " " "	[illegible] 75
[illegible]	" " " " " "	[illegible] 00
[illegible]	Buffalo " " Crocus Polished, Etched, 3½ inches,	[illegible] 00
[illegible]	Stag " " " " 3½ "	[illegible] 00
[illegible]	Pearl " " " " 3½ "	3[illegible] 00

[illegible]

Pocket Knives.

*George Wostenholm & Son's Celebrated I*XL.*

NO.	DESCRIPTION.	PER DOZEN.
16739	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3 inches,	$29 25

No. 14340

NO.	DESCRIPTION.	PER DOZEN
14340	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 2¾ inches,	$29 70
14387	" " " " " " " " 3¼ " Do Shield,	32 25
14360	" " " " " " " " 2¾ "	45 5
14364	" " Stag " " " " " 2⅝ "	31 20

No. 14339.

NO.	DESCRIPTION.	PER DOZEN.
14[illegible]2	Four Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$30 20
14[illegible]	" " Pearl " " " " " 3½ "	34 95
14[illegible]3	Three " Ivory " " " " " 3½ "	27 00
14[illegible]4	" " Shell " " " " " 3½ "	34 50
14[illegible]5	" " Pearl " " " " " 3½ "	37 50

No. 15281

NO.	DESCRIPTION.	PER DOZEN.
15281	Three Blades, Ivory Handle, Brass Lined, Crocus Polished, 3½ inches	$22 [illegible]
15580	Four " Pearl " " " " " 3½ " Do Shield,	27 0[illegible]
16573	" " " " " " " " 3½ "	20 [illegible]

NO.	DESCRIPTION.	PER DOZEN.
11885	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3½ inches,	$[illegible]

NO.	DESCRIPTION.	PER DOZEN.
6064 G	Three Blades, Stag Handle, Brass Lined, 3½ inches,	$21 75

HALF DOZEN IN A BOX.

Pocket Knives.

*George Wostenholm & Son's Celebrated I*XL.*

No. 17023.

NO.	DESCRIPTION.	PER DOZEN.
17024	Three Blades, Stag Handle, Brass Lined, 3½ inches, Etched,	$24 75
17025	" " " " " " 3⅜ " " No Shield,	25 20
17023	" " " " " " 3¼ "	23 10
13401	" " Pearl " " " 3 " " Crocus Polished,	31 50

No. 208.

NO.	DESCRIPTION.	PER DOZEN.
2047	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 45
2048	" " Ivory " " " " " 3½ "	10 45
2060	" " Stag " " " " " 3¼ "	10 45
2044	" " Pearl " " " " " 3¼ "	18 75
2020	Three " Buffalo " " " " " 3½ "	13 75
2046	" " Ivory " " " " " 3½ "	13 75
2061	" " Stag " " " " " 3½ "	13 75
2045	" " Pearl " " " " " 3½ "	23 75

No. 2069.

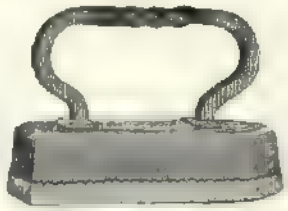
NO.	DESCRIPTION	PER DOZEN
2064	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$13 35
2067	" " Ivory " " " " " 3¼ "	13 35
2065	Three " Stag " " " " " 3¼ "	18 75
2069	" " Ivory " " " " " 3¼ "	18 75
2070	" " Pearl " " " " " 3¼ "	26 70

NO.	DESCRIPTION	PER DOZEN
14284	Four Blades, Fine Pearl Handle, Brass Lined, Crocus Polished, 3⅜ inches,	$49 85

HALF DOZEN IN A BOX.

Tailors' Sad Irons and Geese.

Tailors' Smoothing Irons

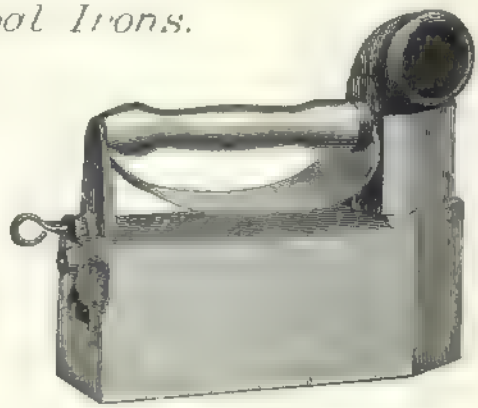


Tailors' Geese

DESCRIPTION	PER POUND
Tailors' Smoothing Irons, [illegible] 18, 20, 22 and 24 lbs.	$0 10
Tailors' Geese, 14, 16, [illegible] 30 lbs	08

Charcoal Irons.

Family

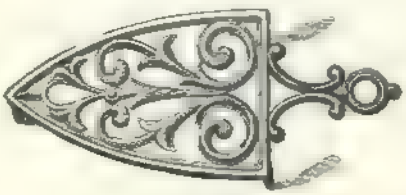


Tailors

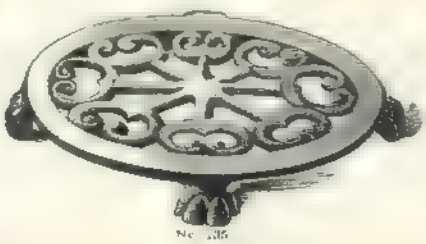
NO.	DESCRIPTION	PER DOZEN
100	Family Charcoal Irons, Wood Handle, with Shield	$18 50
12	Tailors' Charcoal Irons, Wood Handle, with Shield, 14 16 and 18 lbs.	31 60

No 10, ONE DOZEN No 12 HALF DOZEN IN A BOX

Sad Iron and Coffee Pot Stands.



No 50

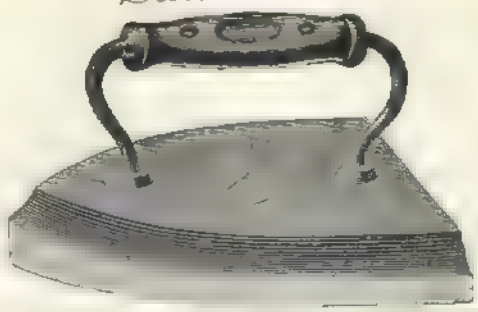


No 135

NO.	DESCRIPTION.	PER DOZEN.
50	Sad Iron Stands, Plain,	$0 90
135	Coffee Pot Stands, Copper Bronzed,	90

ONE DOZEN IN A PACKAGE

Sad Irons.



DESCRIPTION	PER DOZEN
Extra Polished,	$ 1 15
Nickel Plated, Assorted, 5 to 9 lbs. or 6 to 8 lbs. in a case.	1 50

COMMON SAD IRONS, 25 CASES OF 100 OR 200 LBS. NET. PLATED SAD IRONS, 25 CASES OF 100 LBS. NET.

Table,

Showing the Number and Weights of Sad Irons Contained in 200 Pound Cases.

No. of Case,	11				11½			12				12½			13	
Number of Irons,	8	8	8	8	12	12	6	4	8	8	8	12	12	6	16	16
Weights of Irons,	5	6	7	8	6	7	8	5	6	7	8	7	8	9	6	7 lbs.

No. of Case,	14		15		15½	16	17	18	19
Number of Irons,	14	16	16	16	12	8	12	12	12
Weights of Irons,	7	8	8	9	8	8	7	6	9 lbs.

No.	DESCRIPTION	PER DOZEN
2½	Nickel Plated Smoothing Irons, 2½ lbs.,	$ 0 70
1	Nickel Plated Laundry Irons, Round Edge, 5 lbs.,	1 00
2	Nickel Plated Laundry Irons, Round Edge, 6 lbs.,	12 00

No. 2½, ONE DOZEN. Nos. 1 AND 2, HALF DOZEN IN A CASE.

No. 3.

No. 4.

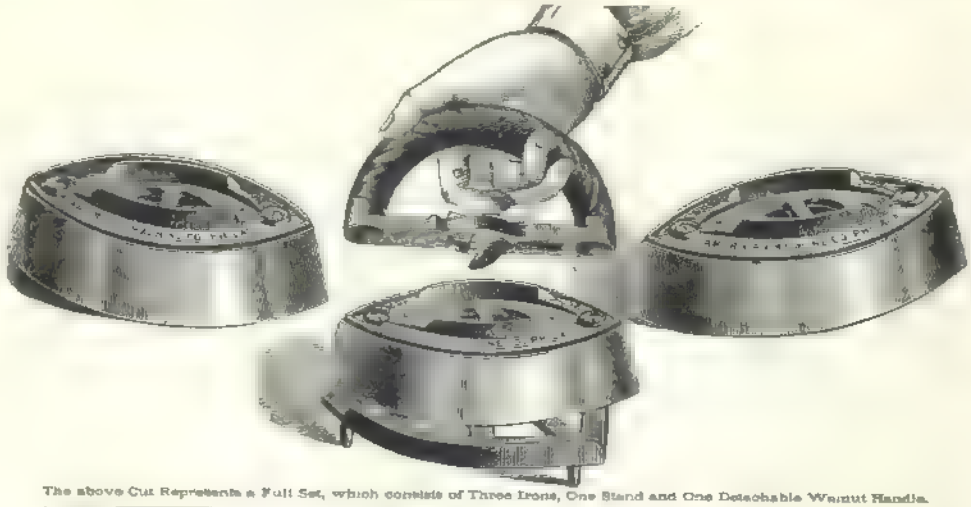
No. 10.

No.	DESCRIPTION.	PER DOZEN
3½	Star Polishing Irons, Nickel Plated, 3½ lbs.,	$ 0 00
4	Troy Polishing Irons, Smooth Bottom, Nickel Plated, 4 lbs.,	15 00
10	Troy Polishing Irons, Perforated Bottom, Polished, 4 lbs.,	7 00

ONE DOZEN IN A CASE.

Mrs. Potts' Smoothing and Polishing Irons.

Double Pointed.

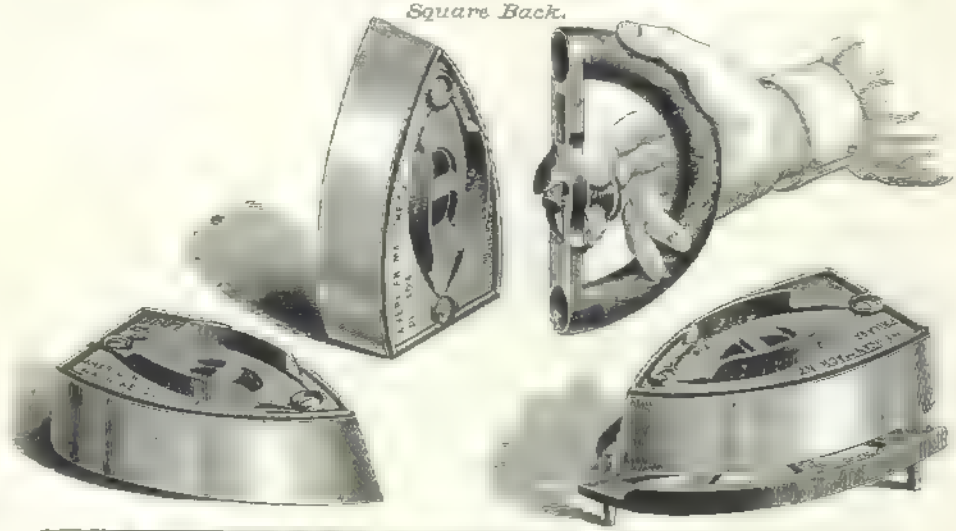


The above Cut Represents a Full Set, which consists of Three Irons, One Stand and One Detachable Walnut Handle.

NO.	DESCRIPTION.	PER DOZEN SETS.
50	Nickel Plated, with one each No. 1, 2 and 3 Iron,	$13 00
55	Extra Polished, with one each No. 1, 2 and 3 Iron,	18 00

HALF DOZEN SETS IN A CASE.

Square Back.



NO.	DESCRIPTION.	PER DOZEN SETS.
160	Nickel Plated, with one each No. 1, 2 and 3 Iron,	$15 00
165	Extra Polished, with one each No. 1, 2 and 3 Iron,	14 00

HALF DOZEN SETS IN A CASE.

Extras.

DESCRIPTION.	PER DOZEN.
Walnut Handles,	$4 00
Sad Iron Stands,	60

Mrs. Potts' Smoothing and Polishing Irons.

Perforated Iron Handle, Star Smoothing Irons.

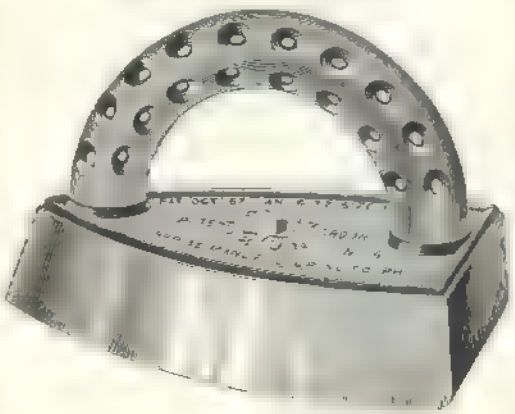
Handle not Detachable.

NO.	DESCRIPTION.	PER DOZ.
70	Nickel Plated, Assorted, Nos. 1, 2 and 3,	$7 [illegible]
75	Extra Polished, " " 1, 2 and 3,	[illegible]

These are the same as the Nos. 50 and 55 [illegible] Iron Handle is used instead of the detachable wood one. For description see Nos. 50 and 55.

ONE DOZEN IN A CASE.

Perforated Iron Handle, Square Back, Star Smoothing Irons.



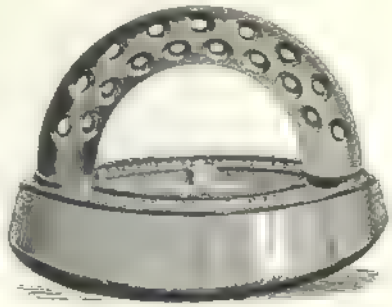
Handle not Detachable.

NO.	DESCRIPTION.	PER DOZ.
76	Extra Polished,	$8 00

This is the same as the No. 165 Irons, excepting that a perforated Iron Handle is used in place of the detachable wood one.

ONE DOZEN IN A CASE.

Perforated Iron Handle, Star Polishing Irons.



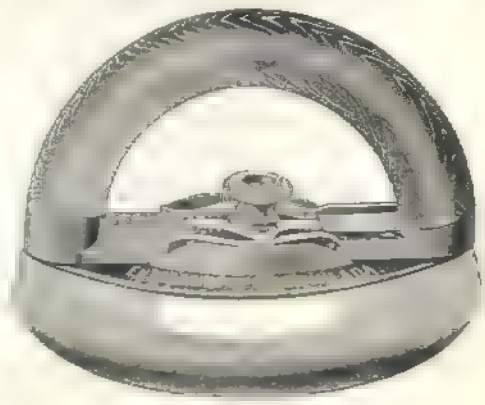
Handle not Detachable.

NO.	DESCRIPTION.	PER DOZ.
77	Extra Polished,	$5 00

The above Iron weighs three pounds, has all round edges and is adapted to laundry and general [illegible] purposes.

ONE DOZEN IN A CASE.

Walnut Handle, Chinese Polishing Irons.



Handle Detachable.

NO.	DESCRIPTION.	PER DOZ.
80	Nickel Plated, Complete, with Handle for [illegible] Iron,	$9 25

This Iron weighs 4½ pounds, has all round edges, and is adapted to laundry and general [illegible] purposes.

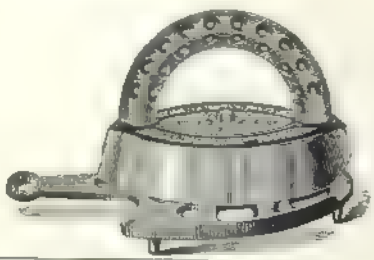
ONE DOZEN IN A CASE.

Mrs. Potts' Smoothing and Polishing Irons.

Family Outfit of Sad Irons.

NO.	DESCRIPTION.	PER SET.
550	Pine Wood Box, Containing Set of Smoothing, Polishing and Girls' Irons, Nickel Plated, Complete with Handles and Stands,	$3 75
555	Same as No 550, but Polished instead of Nickel Plated,	3 50

Girls' Sad Irons.



NO.	DESCRIPTION.	PER DOZEN.
90	Nickel Plated, Walnut Detachable Handle, with Stand, Length, 5 inches,	$5 75
95	Plain Polished, Walnut Detachable Handle, with Stand, Length, 5 inches,	5 25
105	Plain Polished, Perforated Handle and Stand, Length, 5 inches,	4 25

ONE DOZEN IN A BOX

Toy Sad Irons.

Nos. 115 and 125

No. 32.

NO.	DESCRIPTION.	PER DOZEN.
115	Plain Polished, Perforated Handle, with Stand, Length, 4 inches,	$3 50
125	Plain Polished, Perforated Handle, with Stand, Length, 2¾ inches,	1 10
32	Plain Polished, Duck Sads, with Stand, Length 3 inches,	2 00

Nos. [illegible] AND 125, TWO DOZEN IN A CASE. NO. 32, HALF DOZEN IN A BOX.

No. 1 CONTINENTAL IRON FRAME SAW MILL.

This is the strongest, most complete and best made Saw Mill of its size and capacity in the market. We invite a careful examination of dimensions given below It is built either double or single, and will carry up to a 60-inch bottom and a 30-inch top saw. Letter "C2" head blocks are furnished in the regular equipment, but others will be substituted at the difference in price, as per Head Block List.

The husk is wholly of iron, 7 feet long, 3 feet 9 inches wide, 11 inches deep, and 4 inches wide on top Main arbor of steel, 3 inches dia , with bearings 8½ inches long Arbor pulley 24 inches dia 12 inch face. Gig pulley 24x4 Gig and feed pulleys, paper friction, 13 and 5 inch dia 4-inch face Gig pulley on main arbor 14½x4. Rack pinion 4 inches dia. 2¾ inch face, 10 cogs Lumber roller in cast frame 3 inches dia. Revolving wedge 9 inch. Belt tightener pulley 12x12 Upper arbor 2 inches dia, with bearings 6 inches long. The carriage is made in two 12-foot sections, with 5½x4½ inch timbers. The rack stick is 30 feet long Rack iron 2 inch face Carriage roller shafts 1¾ inches dia rollers 8 inches dia , flat and grooved. Wrought iron tee and flat track iron.

The mill complete consists of. The husk, twenty-four feet of carriage, two letter "C2" head blocks with 24 feet of 1¾ inch setting shaft, keyseated the full length, sixty feet of each tee and flat track iron, feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, screws for track rail, holding down bolts for the mill, etc.

Price of the mill complete, without saw or driving belt, $300 00; extra for top rig without saw when double mill is wanted, $75 00; extra length of No 1 carriage, per foot, $3 50, extra flat track iron per foot, 12½c.; extra tee track iron, per foot, 20c.

No. 2 CONTINENTAL MILL IRON FRAME.

This mill is built double and single, and will carry up to a 60-inch bottom and 30-inch top saw Letter "C3" head blocks are furnished in regular equipment, but others will be substituted at the difference in price, as per head block list.

The husk is 7 feet 2 inches long, 4 feet wide, 11 inches deep, and 4 inches wide on top Arbor of steel, 3½ inches dia. with bearings 10 inches long Arbor pulley 24 inches dia. 12 inch face Gig pulley 24x5 inch face Gig and feed pulleys, paper friction, 13 inch and 6½ inch dia , 5 inch face. Gig pulley on main arbor 15x5. Rack pinion 4x2¾, 10 cogs. Lumber roller 3 4 inch. Revolving wedge 11 inch dia Belt tightener pulley 12x12 Upper arbor 2 inches dia., bearings 6 and 8 inches long Upper arbor pulley 14x7¼; Pulley to drive upper arbor 24x7⅛. Upper arbor tightener pulley 8x8 Carriage in two 12-foot sections of 6x6-inch timbers Rack stick 30 feet long. Rack iron 2½ inch face. Rollers, flanged, 9 inches dia., with 1¾ inch shafts. 12-pound tee rail

Mill complete consists of. The husk, twenty-four feet of carriage, two letter "C3" head blocks with 24 feet of 2-inch setting shaft, one hundred and twenty feet of rail, with spikes for same; feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, holding down bolts for the mill, etc.

Price of Single Mill complete without saw or main driving belt, $350 00; extra for top rig without saw, when double mill is wanted, $90 00 extra for flanged track iron and carriage rollers, $30 00, extra length of No. 2 carriage, per foot, $4.00; extra 12 pound steel rail, per foot, 30c.

No. 3 CONTINENTAL MILL IRON FRAME.

Our No. 3 mill compares favorably with other manufacturers' MAMMOTH size It carries 60-inch bottom and 30 inch top saw. Letter "F" or "G" head blocks are usually furnished The husk is 8 feet long 5 feet wide, 11 inches deep, and 4 inches wide on top. Steel arbor 3½ inches dia with 2 bearings 14 inches long, and center bearing Saw collar 6½ inches dia. Arbor pulley 24x14 Gig pulley 26x6 Gig and feed pulleys, paper friction, 13 inch and 6½ dia. by 6 inch face. Gig pulley on main arbor 15x6. Rack pinion shaft 2½ inch dia. Rack pinion 6 inch dia , 3½ inch face. Lumber rollers, turned, 3¾ inch dia. Steel revolving wedge, turned, 14 inch dia. Feed pulleys 15x5. Main belt tightener pulley 14x14 Upper arbor steel, 2 inches dia. with 3 bearings, Upper arbor pulley 14x8 Pulley to drive upper arbor 28x8. Carriage of 6x8 inch Timbers Rack Stick 30 feet long (can make Carriage any length desired, and up to 20 feet in one section). Rack Iron 3½ inches face. Carriage roller axles 2 inch dia. Rollers either flat and grooved, or flanged, 10 inch dia. Steel 20-pound tee rail The carriage track rail is planed, and the rollers are turned.

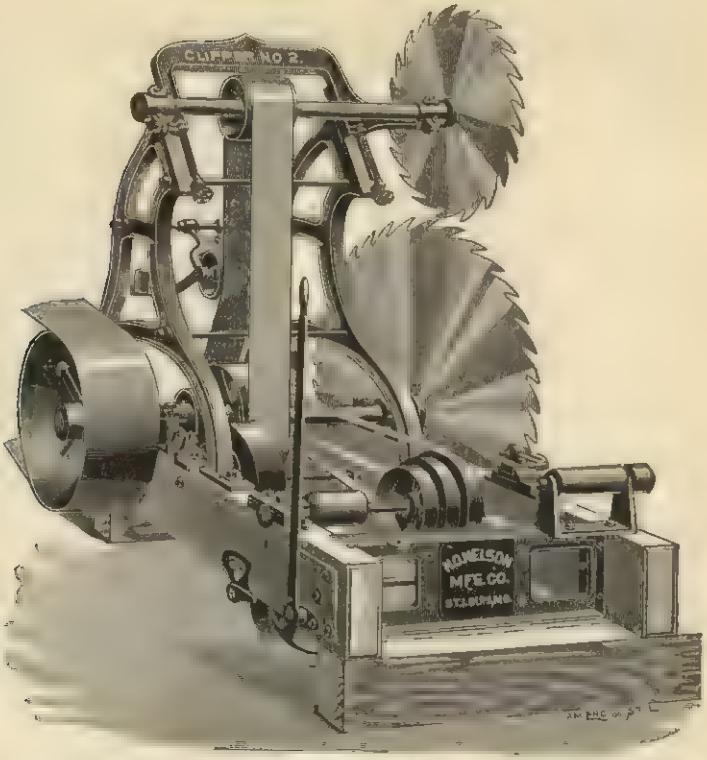
Price of Single Mill Frame only without saws, $375 00; price of double mill frame only, without saws, $505 00; carriage wood work of 6x8 inch Norway pine timbers edges faced with iron, per foot $5 00; three and one-half inch face rack for same, with bolts, per foot, 75c; ten inch iron trucks, fitted to 2 inch axes, with self-oiling babbitted boxes, one roller flat and one grooved, $17 50; twenty pound steel rail, planed flat on top, per foot, 50c; Same, planed flat on top, and edges beveled, for Guide rail, per foot, 55

No. 4 CONTINENTAL MILL—IRON FRAME.

This is our largest Mill, and we consider it the best in the market where very large capacity is desired. It will carry up to a 60-inch bottom and 30-inch top saw Letter "G" or "H" head blocks are usually furnished. The husk is 9 feet long, 5 feet wide 12 inches deep, and 6 inches wide on top, Steel arbor 4 inches dia , with 2 bearings 14 inches long, and 1 center bearing 6 inches long Saw collar 6½ inches dia. Arbor pulley 28x16 inches Gig pulley 30x10. Gig and feed pulleys, paper friction, 14½ inch and 8 inch dia , 10 inch face Gig pulley on main arbor 17x10 Rack pinion shaft 3 inch dia. Rack pinion 7 inch dia , 6 inch face. Lumber rollers, turned, and running on turned shafts in cast frames, 4 inch dia , 20 inch long Revolving wedge steel, turned, 16 inch dia Upper feed shaft 2¾ inch. Feed pulleys 16x6 Intermediate feed shaft 2 inch dia Main belt tightener pulley 16x16, Upper arbor steel, 2¾ inch with 3 long bearings Upper arbor pulley 14x10. Pulley to drive upper arbor 28x10 Upper arbor tightener pulley 12x11 Carriage is made of suitable width to fit any style of head blocks out of 6 by 10 inch timbers Rack stick 30 feet long. Can make the carriage any length desired, and up to 20 feet in one section Rack iron 6 inch face Carriage roller axles 2¾ inches dia Carriage rollers either flat and grooved, or flanged, 10 inch dia. 30-pound steel rail The carriage track rail is planed and the rollers are turned.

Price of Single Mill Frame only, without saws, $500 00; price of double mill frame only, without saws, $675 00; carriage wood work of 6 by 10 inch Norway pine timbers, edges faced with iron, per foot, $6 00; six inch face rack for same with bolts, per foot $1 20, ten inch iron trucks fitted to 2¾ inch axles with self-oiling babbitted boxes, one roller flat and one grooved, $20 00, steel railroad rail weighing 30 pounds per yard, planed flat on top per foot, 80c, steel railroad rail, weighing 35 pounds per yard, planed flat on top and edges beveled, for guide rail, per ft., 85c.

CLIPPER SAW MILL NO. 2.



This Mill is identical with our **No. 3,** illustrated on page 66, except in size. We build it to order only. Its proper capacity is from 5,000 to 10,000 feet per day, according to work and power applied. It carries saws up to 60 inch diameter, single, or 56 and 30 inch double.

Mandrel is 3 in. steel, with Main Pulley 22x12 inches, welded collars, and adjustable boxes of improved, self-oiling patterns.

Feed Works are of the Friction pattern, operated by a single lever and eccentric box. The Intermediate is arranged with swinging Bracket so as to present a square face to its contact pulleys. The feed is arranged so that one man can run the saw and set the blocks without changing position.

The Carriage is 24 feet long unless otherwise agreed, and has iron facing for protection from Head Blocks. It has seven pairs of 8-inch rollers for V and flat track, and 60 ft. of track irons go with the mill. Rollers are shrunk on to 1¼ inch wrought steel axles, running across carriage and running in best self-oiling boxes.

Head Blocks are the letter E pattern, illustrated on page 48 of this book. They are wholly of wrought steel, gears and ratchets are machine cut and work with absolute accuracy. (See description of Head Blocks for detailed specification.)

With each Mill we furnish two Cant Hooks, Saw Swage, Wrench, Oil Can and Inside Belts. Weight of Single Mill is about 3,500 lbs.; Double Mill, 4,200 lbs.

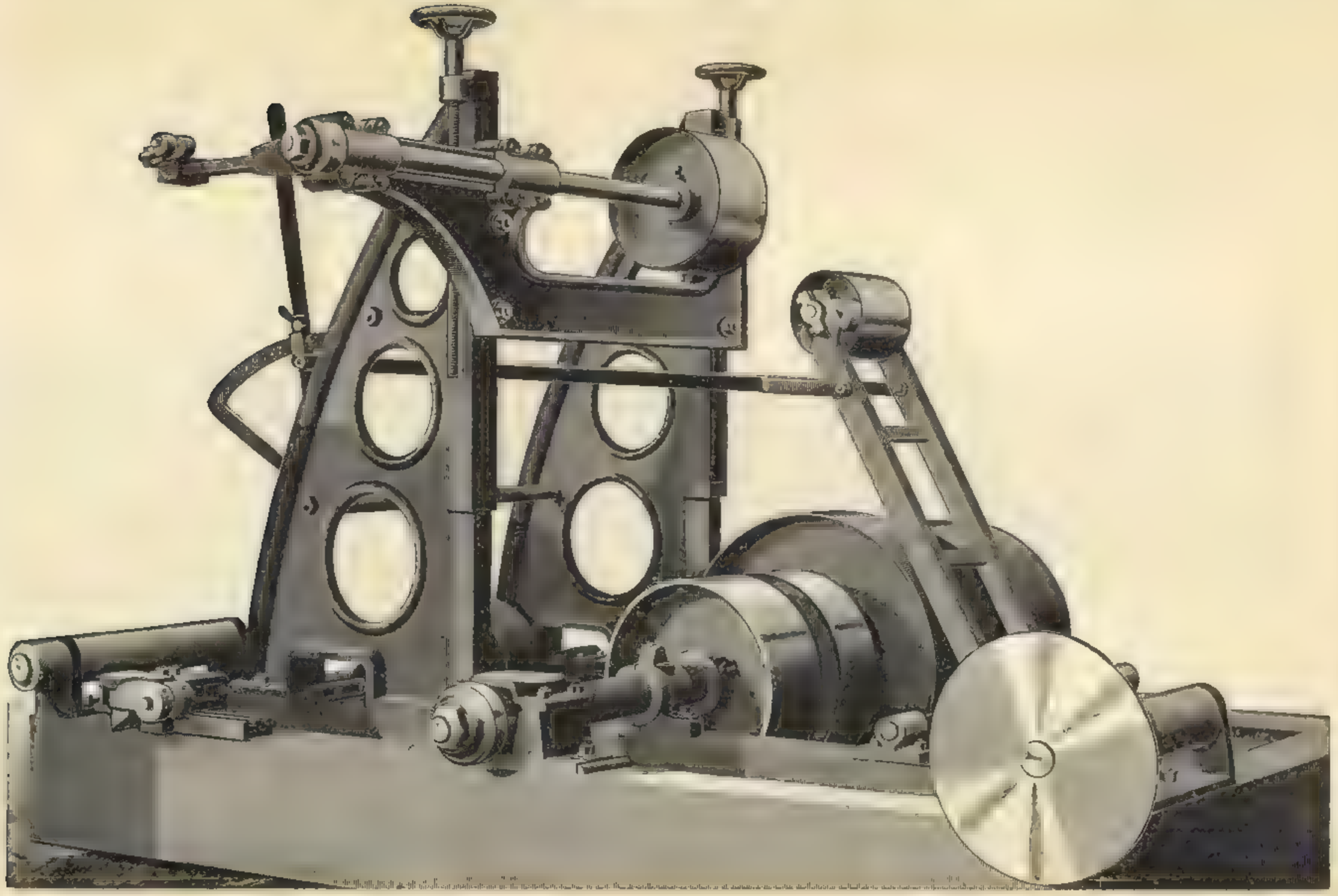
Price, No. 2 Clipper Mill —Single.—Complete, as described, with one 56-inch Saw and pair of Letter E Head Blocks $600 00

Price of Double Mill, with one 54 and one 30-inch Saw, and pair Letter E Head Blocks..... 700 00

For larger Saws add difference in market price of Saws, as per regular list elsewhere in this Catalogue.

CONTINENTAL IRON FRAME SAW MILLS.

Cut illustrates No. 4 Mill.



No. 1 CONTINENTAL IRON FRAME SAW MILL.

This is the strongest, most complete and best made Saw Mill of its size and capacity in the market. We invite a careful examination of dimensions given below It is built either double or single, and will carry up to a 60-inch bottom and a 30-inch top saw. Letter "C2" head blocks are furnished in the regular equipment, but others will be substituted at the difference in price, as per Head Block List.

The husk is wholly of iron, 7 feet long, 3 feet 9 inches wide, 11 inches deep, and 4 inches wide on top Main arbor of steel, 3 inches dia , with bearings 8½ inches long Arbor pulley 24 inches dia 12 inch face. Gig pulley 24x4 Gig and feed pulleys, paper friction, 13 and 5 inch dia 4-inch face Gig pulley on main arbor 14½x4. Rack pinion 4 inches dia. 2¾ inch face, 10 cogs Lumber roller in cast frame 3 inches dia. Revolving wedge 9 inch. Belt tightener pulley 12x12 Upper arbor 2 inches dia, with bearings 6 inches long. The carriage is made in two 12-foot sections, with 5½x4½ inch timbers. The rack stick is 30 feet long Rack iron 2 inch face Carriage roller shafts 1¾ inches dia rollers 8 inches dia , flat and grooved. Wrought iron tee and flat track iron.

The mill complete consists of. The husk, twenty-four feet of carriage, two letter "C2" head blocks with 24 feet of 1¾ inch setting shaft, keyseated the full length, sixty feet of each tee and flat track iron, feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, screws for track rail, holding down bolts for the mill, etc.

Price of the mill complete, without saw or driving belt, $300 00; extra for top rig without saw when double mill is wanted, $75 00; extra length of No 1 carriage, per foot, $3 50, extra flat track iron per foot, 12½c.; extra tee track iron, per foot, 20c.

No. 2 CONTINENTAL MILL IRON FRAME.

This mill is built double and single, and will carry up to a 60-inch bottom and 30-inch top saw Letter "C3" head blocks are furnished in regular equipment, but others will be substituted at the difference in price, as per head block list.

The husk is 7 feet 2 inches long, 4 feet wide, 11 inches deep, and 4 inches wide on top Arbor of steel, 3½ inches dia. with bearings 10 inches long Arbor pulley 24 inches dia. 12 inch face Gig pulley 24x5 inch face Gig and feed pulleys, paper friction, 13 inch and 6½ inch dia , 5 inch face. Gig pulley on main arbor 15x5. Rack pinion 4x2¾, 10 cogs. Lumber roller 3 4 inch. Revolving wedge 11 inch dia Belt tightener pulley 12x12 Upper arbor 2 inches dia., bearings 6 and 8 inches long Upper arbor pulley 14x7¼; Pulley to drive upper arbor 24x7⅛. Upper arbor tightener pulley 8x8 Carriage in two 12-foot sections of 6x6-inch timbers Rack stick 30 feet long. Rack iron 2½ inch face. Rollers, flanged, 9 inches dia., with 1¾ inch shafts. 12-pound tee rail

Mill complete consists of. The husk, twenty-four feet of carriage, two letter "C3" head blocks with 24 feet of 2-inch setting shaft, one hundred and twenty feet of rail, with spikes for same; feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, holding down bolts for the mill, etc.

Price of Single Mill complete without saw or main driving belt, $350 00; extra for top rig without saw, when double mill is wanted, $90 00 extra for flanged track iron and carriage rollers, $30 00, extra length of No. 2 carriage, per foot, $4.00; extra 12 pound steel rail, per foot, 30c.

No. 3 CONTINENTAL MILL IRON FRAME.

Our No. 3 mill compares favorably with other manufacturers' MAMMOTH size It carries 60-inch bottom and 30 inch top saw. Letter "F" or "G" head blocks are usually furnished The husk is 8 feet long 5 feet wide, 11 inches deep, and 4 inches wide on top. Steel arbor 3½ inches dia with 2 bearings 14 inches long, and center bearing Saw collar 6½ inches dia. Arbor pulley 24x14 Gig pulley 26x6 Gig and feed pulleys, paper friction, 13 inch and 6½ dia. by 6 inch face. Gig pulley on main arbor 15x6. Rack pinion shaft 2½ inch dia. Rack pinion 6 inch dia , 3½ inch face. Lumber rollers, turned, 3¾ inch dia. Steel revolving wedge, turned, 14 inch dia. Feed pulleys 15x5. Main belt tightener pulley 14x14 Upper arbor steel, 2 inches dia. with 3 bearings, Upper arbor pulley 14x8 Pulley to drive upper arbor 28x8. Carriage of 6x8 inch Timbers Rack Stick 30 feet long (can make Carriage any length desired, and up to 20 feet in one section). Rack Iron 3½ inches face. Carriage roller axles 2 inch dia. Rollers either flat and grooved, or flanged, 10 inch dia. Steel 20-pound tee rail The carriage track rail is planed, and the rollers are turned.

Price of Single Mill Frame only without saws, $375 00; price of double mill frame only, without saws, $505 00; carriage wood work of 6x8 inch Norway pine timbers edges faced with iron, per foot $5 00; three and one-half inch face rack for same, with bolts, per foot, 75c; ten inch iron trucks, fitted to 2 inch axes, with self-oiling babbitted boxes, one roller flat and one grooved, $17 50; twenty pound steel rail, planed flat on top, per foot, 50c; Same, planed flat on top, and edges beveled, for Guide rail, per foot, 55

No. 4 CONTINENTAL MILL—IRON FRAME.

This is our largest Mill, and we consider it the best in the market where very large capacity is desired. It will carry up to a 60-inch bottom and 30-inch top saw Letter "G" or "H" head blocks are usually furnished. The husk is 9 feet long, 5 feet wide 12 inches deep, and 6 inches wide on top, Steel arbor 4 inches dia , with 2 bearings 14 inches long, and 1 center bearing 6 inches long Saw collar 6½ inches dia. Arbor pulley 28x16 inches Gig pulley 30x10. Gig and feed pulleys, paper friction, 14½ inch and 8 inch dia , 10 inch face Gig pulley on main arbor 17x10 Rack pinion shaft 3 inch dia. Rack pinion 7 inch dia , 6 inch face. Lumber rollers, turned, and running on turned shafts in cast frames, 4 inch dia , 20 inch long Revolving wedge steel, turned, 16 inch dia Upper feed shaft 2¾ inch. Feed pulleys 16x6 Intermediate feed shaft 2 inch dia Main belt tightener pulley 16x16, Upper arbor steel, 2¾ inch with 3 long bearings Upper arbor pulley 14x10. Pulley to drive upper arbor 28x10 Upper arbor tightener pulley 12x11 Carriage is made of suitable width to fit any style of head blocks out of 6 by 10 inch timbers Rack stick 30 feet long. Can make the carriage any length desired, and up to 20 feet in one section Rack iron 6 inch face Carriage roller axles 2¾ inches dia Carriage rollers either flat and grooved, or flanged, 10 inch dia. 30-pound steel rail The carriage track rail is planed and the rollers are turned.

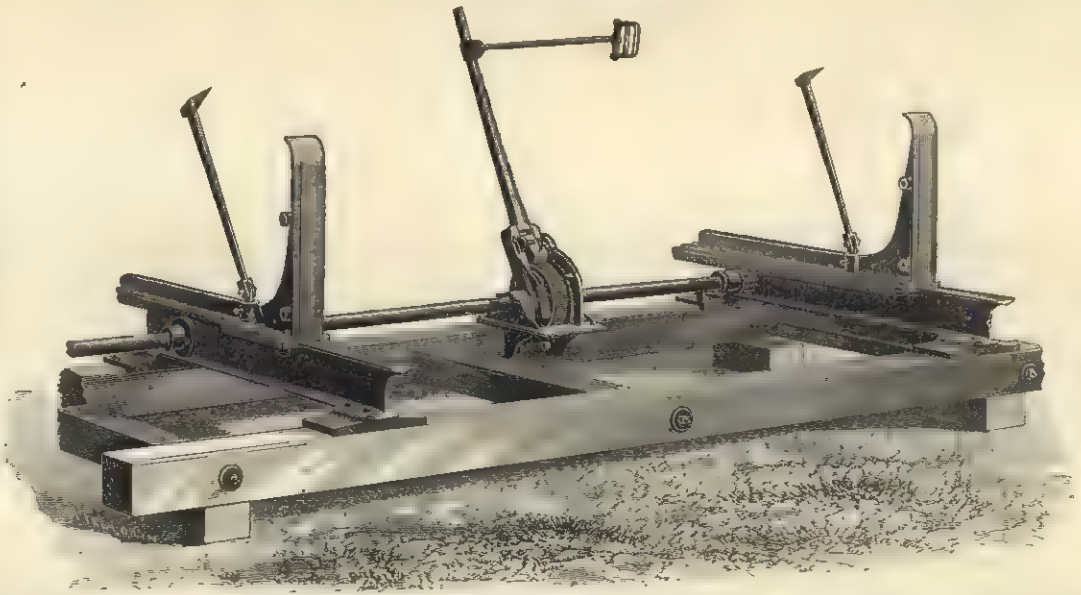
Price of Single Mill Frame only, without saws, $500 00; price of double mill frame only, without saws, $675 00; carriage wood work of 6 by 10 inch Norway pine timbers, edges faced with iron, per foot, $6 00; six inch face rack for same with bolts, per foot $1 20, ten inch iron trucks fitted to 2¾ inch axles with self-oiling babbitted boxes, one roller flat and one grooved, $20 00, steel railroad rail weighing 30 pounds per yard, planed flat on top per foot, 80c, steel railroad rail, weighing 35 pounds per yard, planed flat on top and edges beveled, for guide rail, per ft., 85c.

THE HAMILTON IMPROVED HEAD-BLOCKS.

LATEST IMPROVED RACK-AND-PINION LEVER-SETTING HEAD-BLOCKS.

The most important part of a saw mill is the Head-Blocks. To make good lumber they must be reliable simple, quick to operate and absolutely accurate. Our Blocks meet all these requirements. They are made wholly of wrought iron and steel, and are the strongest built of any in the market. All the ratchet setting wheels are machine cut, from solid metal, which makes them mathematically correct.

LETTER "C" HEAD-BLOCKS.



PRICES.

C-1, with 16 ft. 1½ in. set Shaft, will take up to a 36 in. log, $ 75 00
C-2, with 24 ft. 1¾ in. set Shaft, will take up to a 40 in. log, 85 00
C-3, with 24 ft. 2 in. set Shaft, will take up to a 42 in. log, 100 00

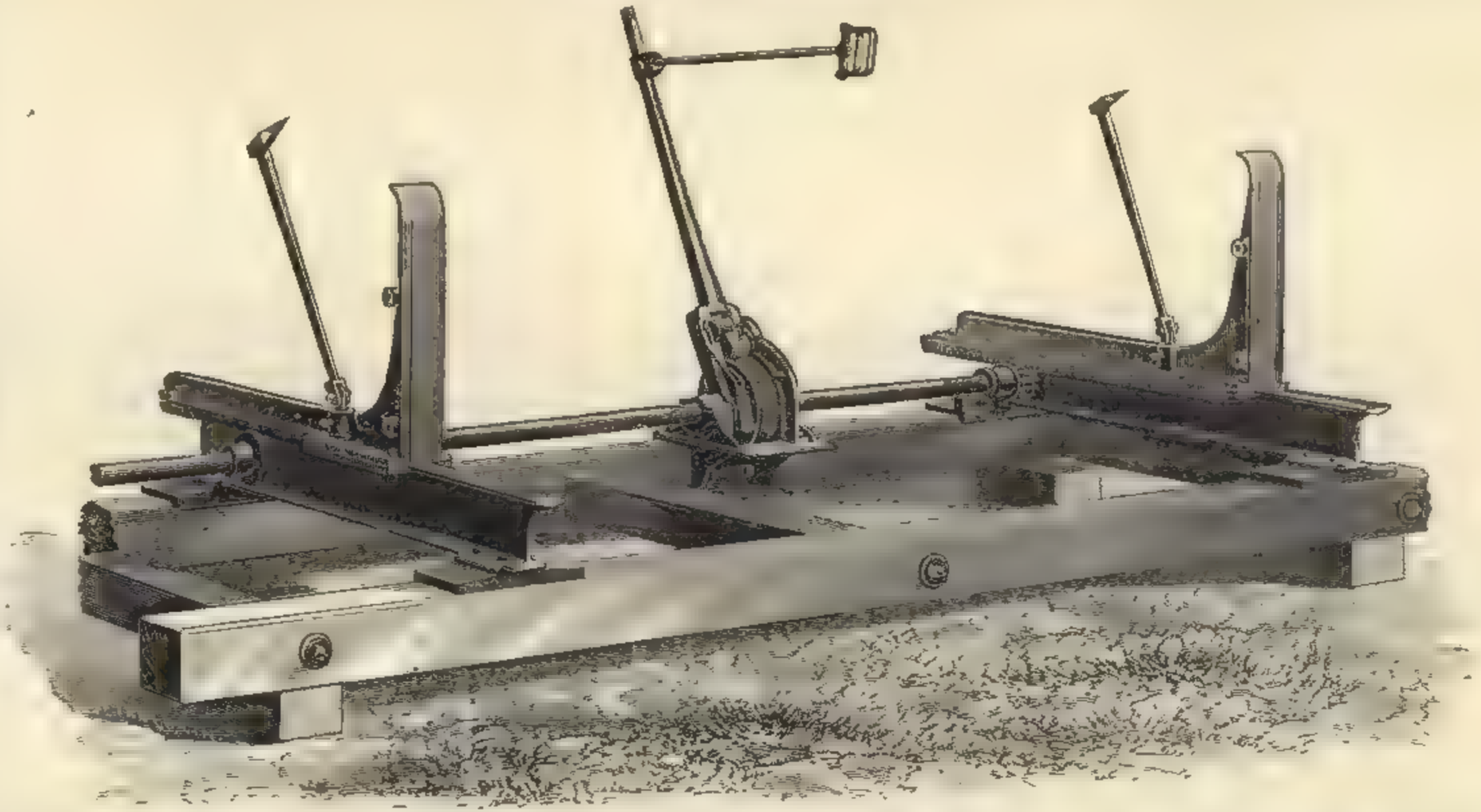
Our "C" Blocks are both Independent and Simultaneous Lever-setting; have a 1½ inch setting shaft, key-seated the full length, by which they can be moved on the carriage very quickly to suit different lengths of timber; set from ⅛ to 2½ inches at each forward throw of the lever; so arranged that sawyer can do his own setting. By means of the double handle and connections, he is enabled to move the knees either back or forward without leaving his place at the saw. The pawl hangs on a pivot and is connected by a chain to the inner handle. When setting the log up the inner handle is not used. When the knees are to be moved back pulling the inner handle forward lifts the front pawls out and throws the back pawls in. The knees can also be run either back or forward by means of a hand wheel which is furnished with the blocks. The bodies are divided off into 1-4 inches, in large plain figures.

THE HAMILTON IMPROVED HEAD-BLOCKS.

LATEST IMPROVED RACK-AND-PINION LEVER-SETTING HEAD-BLOCKS.

The most important part of a saw mill is the Head-Blocks. To make good lumber they must be reliable simple, quick to operate and absolutely accurate. Our Blocks meet all these requirements. They are made wholly of wrought iron and steel, and are the strongest built of any in the market. All the ratchet setting wheels are machine cut, from solid metal, which makes them mathematically correct.

LETTER "C" HEAD-BLOCKS.



PRICES.

C-1, with 16 ft. 1⅛ in. set Shaft, will take up to a 36 in. log,	$ 75 00
C-2, with 24 ft. 1¾ in. set Shaft, will take up to a 40 in. log,	85 00
C-3, with 24 ft. 2 in. set Shaft, will take up to a 42 in. log,	100 00

Our "C" Blocks are both Independent and Simultaneous Lever-setting; have a 1½ inch setting shaft, key seated the full length, by which they can be moved on the carriage very quickly to suit different lengths of timber; set from ⅛ to 2½ inches at each forward throw of the lever; so arranged that sawyer can do his own setting. By means of the double handle and connections, he is enabled to move the knees either back or forward without leaving his place at the saw. The pawl hangs on a pivot and is connected by a chain to the inner handle. When setting the log up the inner handle is not used. When the knees are to be moved back pulling the inner handle forward lifts the front pawls out and throws the back pawls in. The knees can also be run either back or forward by means of a hand wheel which is furnished with the blocks. The bodies are divided off into 1-4 inches, in large plain figures.

NELSON'S No. 3 CLIPPER MILL.

The cut on opposite page represents our Standard style of Mill, which we make in several sizes. It is the leading favorite in the western and southern Trade.

The Frame is Yellow Pine, with heavy cast ends. It is 9 feet long, and 5 feet wide, 18½ inches deep. The side timbers are 5½ inches thick.

The Mandrel is 3¼ inches diameter hammered steel, equal to an ordinary iron Mandrel 5 inch diameter. It extends outside of frame, with Drive pulley 22x14 inches, supported by an OUTSIDE BEARING. The bearings are all adjustable and self-oiling. The Collars are all forged steel, welded to Mandrel. The Mandrel is accurately balanced with all its pulleys on, after they have been keyed in place.

The Intermediate Pulley is hung on Swinging Bracket, attached to the center frame piece.

The Friction Feed Pulley is 26 inches diameter, 4½ inch face, and the paper friction is 5 inch diameter, same face, a proportion we have found by experience to give the best results in general use.

The Carriage is of Norway Pine, 5¼ x 6¾ inch, 24 feet long, unless ordered otherwise, and provided with seven pairs of 8 inch carriage rollers, having heavy axles extending across, babbited bearings, and convenient arrangement for oiling. The Rollers are shrunk on to axle, and fastened so they can never become loosened. Rack stick is 4 x 7 inches, 30 feet long. Wrought iron ways on top of carriage are provided for the Headblocks to move upon. 60 feet of T rail-track is furnished with 24 feet of carriage, or proportionate amount with other length carriage.

The Head Blocks are wholly of wrought iron and steel. Prices below include one pair of Blocks, designated in following pages as letter F. (Refer to description there given for complete details.) Other style of Block can be furnished upon agreement.

The Top Rig is of the pattern generally preferred by mill men, is very substantial, has an adjustment of ten inches for the top saw, and an unusually wide space between bottom saw and top frame for handling slabs. The Top Belt Tightener is made to extend in front so as to be controlled by the sawyer.

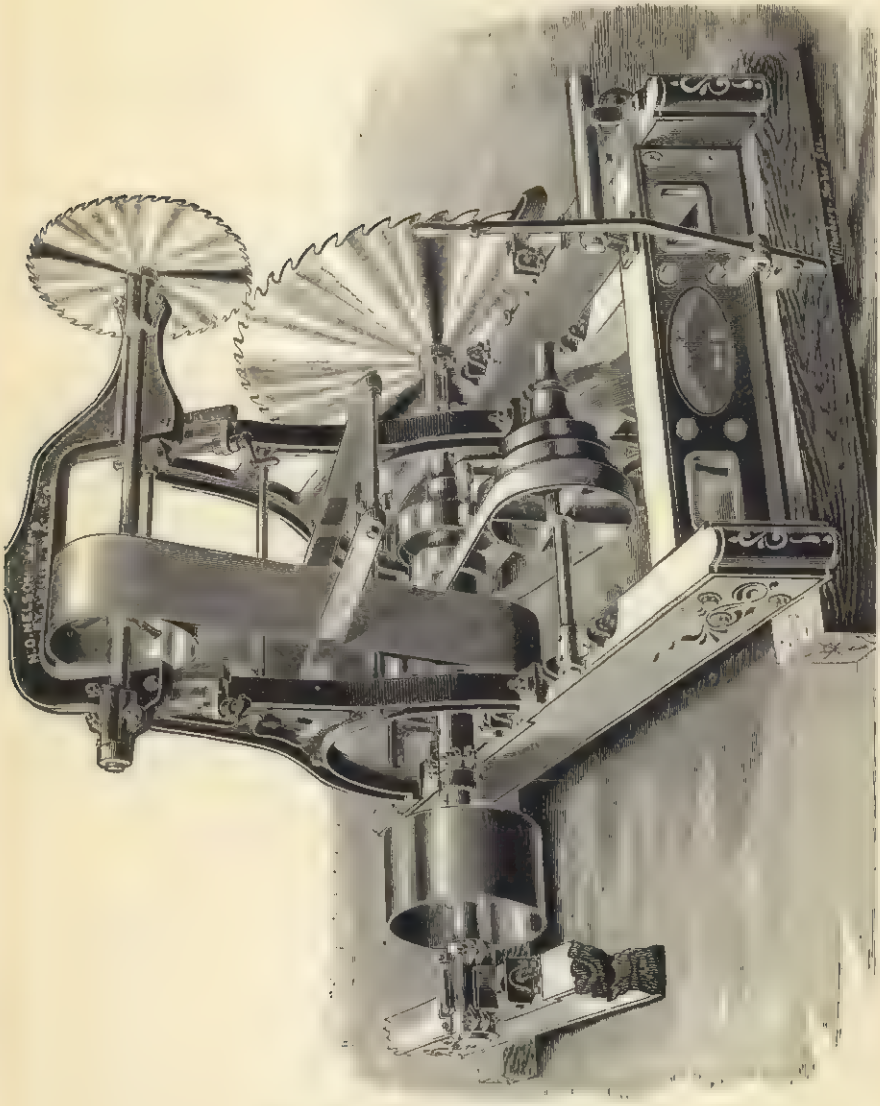
The Capacity is easily 25,000 feet per day, with good handling and adequate power.

Price, No. 3 Clipper Mill complete, with 24 ft of Carriage, two Letter F Head Blocks, 160 ft. of 16 lb. T Rail, one 60 inch and one 30 inch Saw, Inside Belts, two Cant Hooks, Saw Swage, Oil Cans and Wrench $900 00

Price, without Top Rig and Top Saw, otherwise equipped as above described 775 00

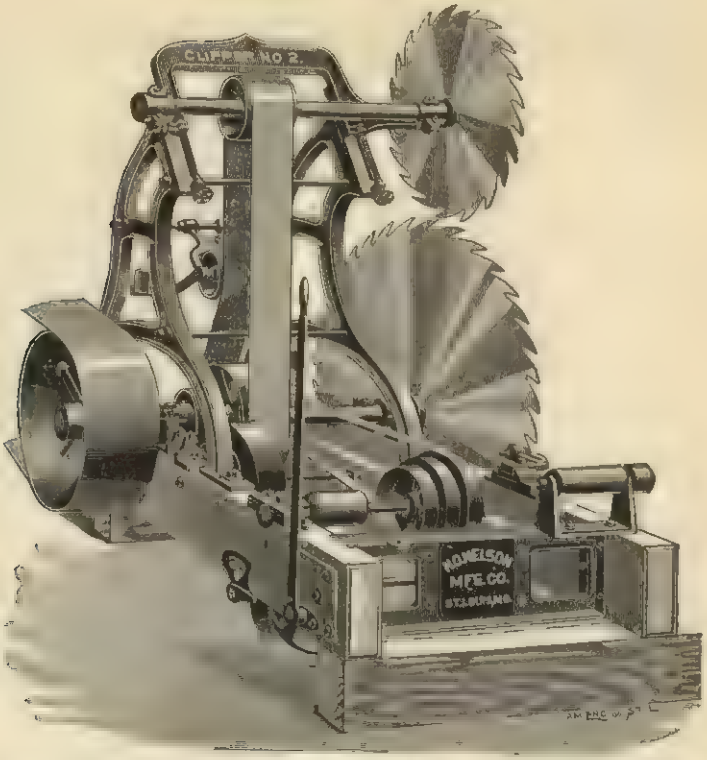
Additional Carriage per foot, $5.00. T Rail Track at market price

NELSON'S NO. 3 CLIPPER MILL.



CAPACITY, 25,000 FEET IN TEN HOURS.

CLIPPER SAW MILL NO. 2.



This Mill is identical with our **No. 3,** illustrated on page 66, except in size. We build it to order only. Its proper capacity is from 5,000 to 10,000 feet per day, according to work and power applied. It carries saws up to 60 inch diameter, single, or 56 and 30 inch double.

Mandrel is 3 in. steel, with Main Pulley 22x12 inches, welded collars, and adjustable boxes of improved, self-oiling patterns.

Feed Works are of the Friction pattern, operated by a single lever and eccentric box. The Intermediate is arranged with swinging Bracket so as to present a square face to its contact pulleys. The feed is arranged so that one man can run the saw and set the blocks without changing position.

The Carriage is 24 feet long unless otherwise agreed, and has iron facing for protection from Head Blocks. It has seven pairs of 8-inch rollers for V and flat track, and 60 ft. of track irons go with the mill. Rollers are shrunk on to 1¼ inch wrought steel axles, running across carriage and running in best self-oiling boxes.

Head Blocks are the letter E pattern, illustrated on page 48 of this book. They are wholly of wrought steel, gears and ratchets are machine cut and work with absolute accuracy. (See description of Head Blocks for detailed specification.)

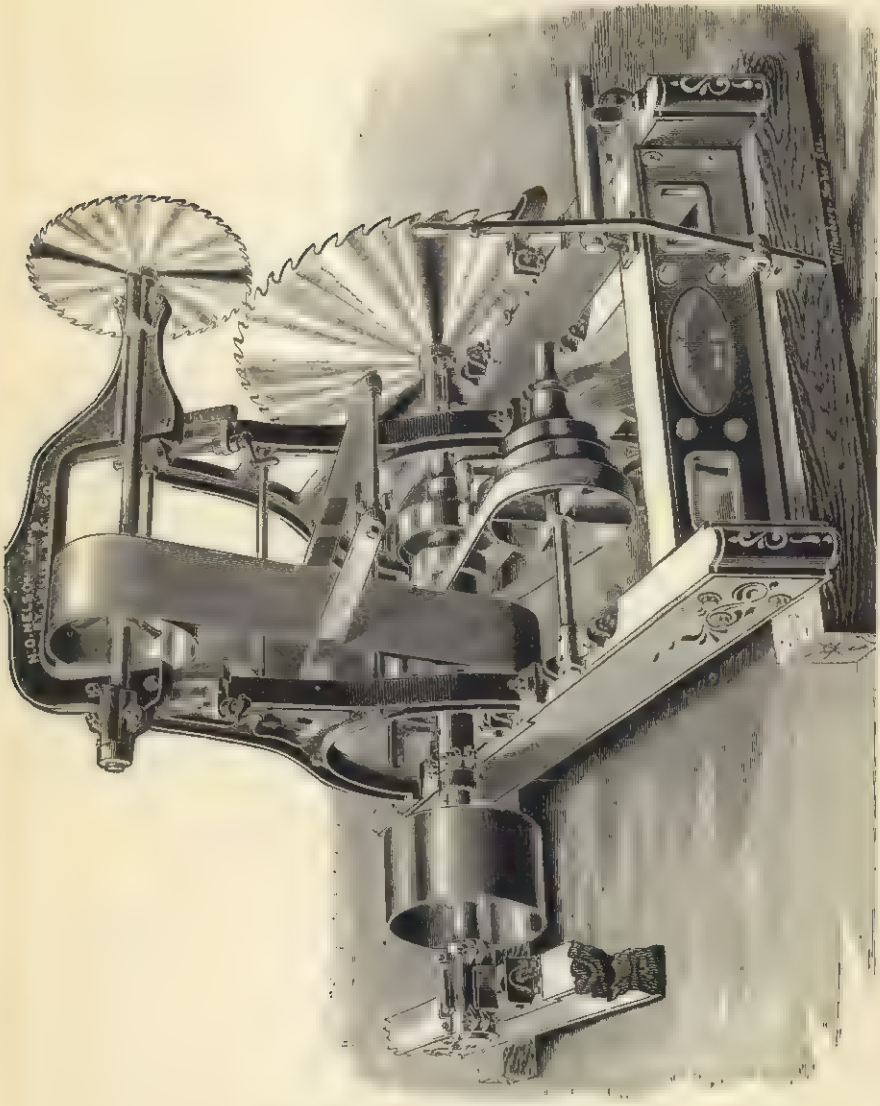
With each Mill we furnish two Cant Hooks, Saw Swage, Wrench, Oil Can and Inside Belts. Weight of Single Mill is about 3,500 lbs.; Double Mill, 4,200 lbs.

Price, No. 2 Clipper Mill —Single.—Complete, as described, with one 56-inch Saw and pair of Letter E Head Blocks $600 00

Price of Double Mill, with one 54 and one 30-inch Saw, and pair Letter E Head Blocks..... 700 00

For larger Saws add difference in market price of Saws, as per regular list elsewhere in this Catalogue.

NELSON'S NO. 3 CLIPPER MILL.



CAPACITY, 25,000 FEET IN TEN HOURS.

NELSON'S No. 3 CLIPPER MILL.

The cut on opposite page represents our Standard style of Mill, which we make in several sizes. It is the leading favorite in the western and southern Trade.

The Frame is Yellow Pine, with heavy cast ends. It is 9 feet long, and 5 feet wide, 18½ inches deep. The side timbers are 5½ inches thick.

The Mandrel is 3¼ inches diameter hammered steel, equal to an ordinary iron Mandrel 5 inch diameter. It extends outside of frame, with Drive pulley 22x14 inches, supported by an OUTSIDE BEARING. The bearings are all adjustable and self-oiling. The Collars are all forged steel, welded to Mandrel. The Mandrel is accurately balanced with all its pulleys on, after they have been keyed in place.

The Intermediate Pulley is hung on Swinging Bracket, attached to the center frame piece.

The Friction Feed Pulley is 26 inches diameter, 4½ inch face, and the paper friction is 5 inch diameter, same face, a proportion we have found by experience to give the best results in general use.

The Carriage is of Norway Pine, 5¼ x 6¾ inch, 24 feet long, unless ordered otherwise, and provided with seven pairs of 8 inch carriage rollers, having heavy axles extending across, babbited bearings, and convenient arrangement for oiling. The Rollers are shrunk on to axle, and fastened so they can never become loosened. Rack stick is 4 x 7 inches, 30 feet long. Wrought iron ways on top of carriage are provided for the Headblocks to move upon. 60 feet of T rail-track is furnished with 24 feet of carriage, or proportionate amount with other length carriage.

The Head Blocks are wholly of wrought iron and steel. Prices below include one pair of Blocks, designated in following pages as letter F. (Refer to description there given for complete details.) Other style of Block can be furnished upon agreement.

The Top Rig is of the pattern generally preferred by mill men, is very substantial, has an adjustment of ten inches for the top saw, and an unusually wide space between bottom saw and top frame for handling slabs. The Top Belt Tightener is made to extend in front so as to be controlled by the sawyer.

The Capacity is easily 25,000 feet per day, with good handling and adequate power.

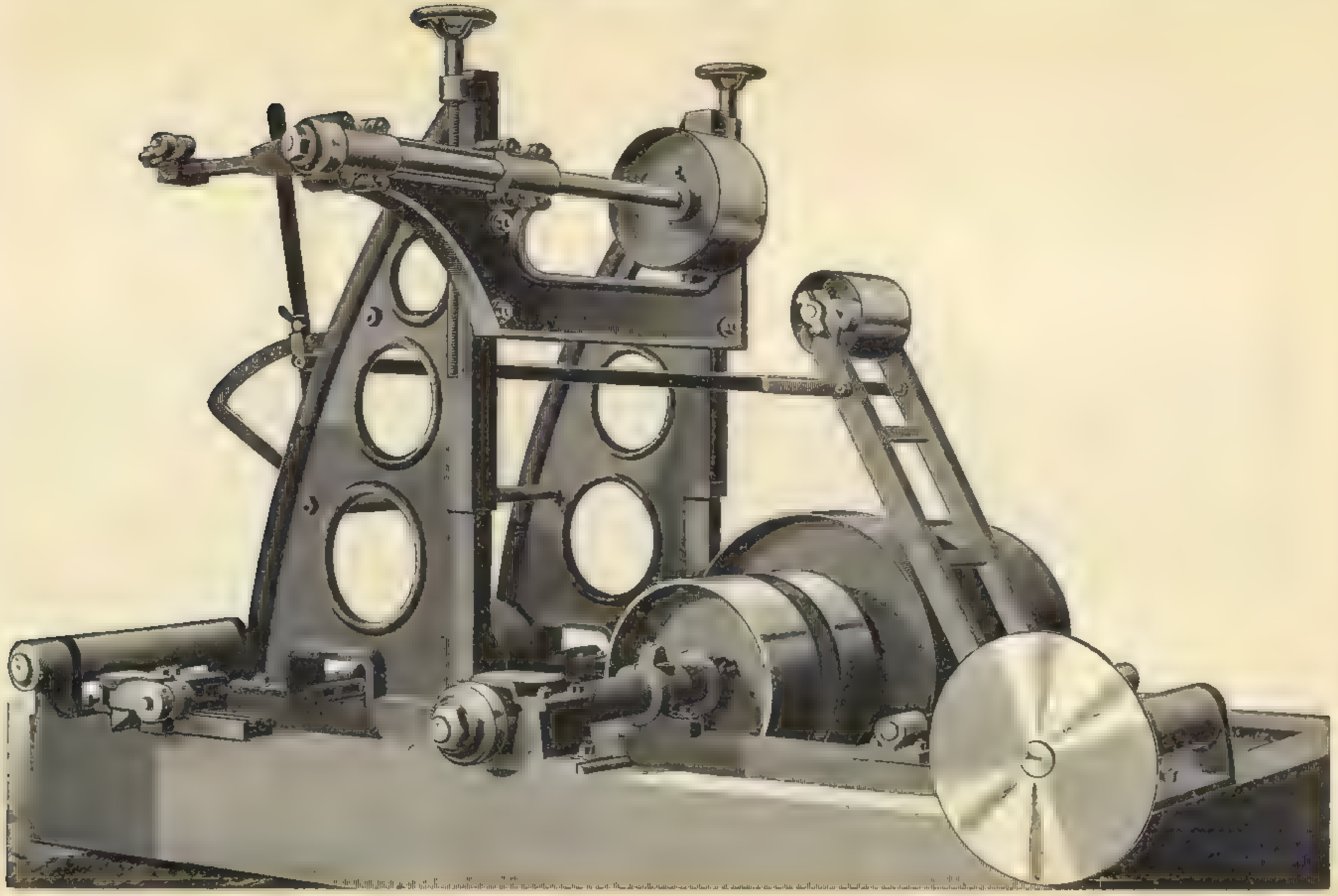
Price, No. 3 Clipper Mill complete, with 24 ft of Carriage, two Letter F Head Blocks, 160 ft. of 16 lb. T Rail, one 60 inch and one 30 inch Saw, Inside Belts, two Cant Hooks, Saw Swage, Oil Cans and Wrench $900 00

Price, without Top Rig and Top Saw, otherwise equipped as above described 775 00

Additional Carriage per foot, $5.00. T Rail Track at market price

CONTINENTAL IRON FRAME SAW MILLS.

Cut illustrates No. 4 Mill.



No. 1 CONTINENTAL IRON FRAME SAW MILL.

This is the strongest, most complete and best made Saw Mill of its size and capacity in the market. We invite a careful examination of dimensions given below It is built either double or single, and will carry up to a 60-inch bottom and a 30-inch top saw. Letter "C2" head blocks are furnished in the regular equipment, but others will be substituted at the difference in price, as per Head Block List.

The husk is wholly of iron, 7 feet long, 3 feet 9 inches wide, 11 inches deep, and 4 inches wide on top Main arbor of steel, 3 inches dia , with bearings 8½ inches long Arbor pulley 24 inches dia 12 inch face. Gig pulley 24x4 Gig and feed pulleys, paper friction, 13 and 5 inch dia 4-inch face Gig pulley on main arbor 14½x4. Rack pinion 4 inches dia. 2¾ inch face, 10 cogs Lumber roller in cast frame 3 inches dia. Revolving wedge 9 inch. Belt tightener pulley 12x12 Upper arbor 2 inches dia, with bearings 6 inches long. The carriage is made in two 12-foot sections, with 5½x4½ inch timbers. The rack stick is 30 feet long Rack iron 2 inch face Carriage roller shafts 1¾ inches dia rollers 8 inches dia , flat and grooved. Wrought iron tee and flat track iron.

The mill complete consists of. The husk, twenty-four feet of carriage, two letter "C2" head blocks with 24 feet of 1¾ inch setting shaft, keyseated the full length, sixty feet of each tee and flat track iron, feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, screws for track rail, holding down bolts for the mill, etc.

Price of the mill complete, without saw or driving belt, $300 00; extra for top rig without saw when double mill is wanted, $75 00; extra length of No 1 carriage, per foot, $3 50, extra flat track iron per foot, 12½c.; extra tee track iron, per foot, 20c.

No. 2 CONTINENTAL MILL IRON FRAME.

This mill is built double and single, and will carry up to a 60-inch bottom and 30-inch top saw Letter "C3" head blocks are furnished in regular equipment, but others will be substituted at the difference in price, as per head block list.

The husk is 7 feet 2 inches long, 4 feet wide, 11 inches deep, and 4 inches wide on top Arbor of steel, 3½ inches dia. with bearings 10 inches long Arbor pulley 24 inches dia. 12 inch face Gig pulley 24x5 inch face Gig and feed pulleys, paper friction, 13 inch and 6½ inch dia , 5 inch face. Gig pulley on main arbor 15x5. Rack pinion 4x2¾, 10 cogs. Lumber roller 3 4 inch. Revolving wedge 11 inch dia Belt tightener pulley 12x12 Upper arbor 2 inches dia., bearings 6 and 8 inches long Upper arbor pulley 14x7¼; Pulley to drive upper arbor 24x7⅛. Upper arbor tightener pulley 8x8 Carriage in two 12-foot sections of 6x6-inch timbers Rack stick 30 feet long. Rack iron 2½ inch face. Rollers, flanged, 9 inches dia., with 1¾ inch shafts. 12-pound tee rail

Mill complete consists of. The husk, twenty-four feet of carriage, two letter "C3" head blocks with 24 feet of 2-inch setting shaft, one hundred and twenty feet of rail, with spikes for same; feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, holding down bolts for the mill, etc.

Price of Single Mill complete without saw or main driving belt, $350 00; extra for top rig without saw, when double mill is wanted, $90 00 extra for flanged track iron and carriage rollers, $30 00, extra length of No. 2 carriage, per foot, $4.00; extra 12 pound steel rail, per foot, 30c.

No. 3 CONTINENTAL MILL IRON FRAME.

Our No. 3 mill compares favorably with other manufacturers' MAMMOTH size It carries 60-inch bottom and 30 inch top saw. Letter "F" or "G" head blocks are usually furnished The husk is 8 feet long 5 feet wide, 11 inches deep, and 4 inches wide on top. Steel arbor 3½ inches dia with 2 bearings 14 inches long, and center bearing Saw collar 6½ inches dia. Arbor pulley 24x14 Gig pulley 26x6 Gig and feed pulleys, paper friction, 13 inch and 6½ dia. by 6 inch face. Gig pulley on main arbor 15x6. Rack pinion shaft 2½ inch dia. Rack pinion 6 inch dia , 3½ inch face. Lumber rollers, turned, 3¾ inch dia. Steel revolving wedge, turned, 14 inch dia. Feed pulleys 15x5. Main belt tightener pulley 14x14 Upper arbor steel, 2 inches dia. with 3 bearings, Upper arbor pulley 14x8 Pulley to drive upper arbor 28x8. Carriage of 6x8 inch Timbers Rack Stick 30 feet long (can make Carriage any length desired, and up to 20 feet in one section). Rack Iron 3½ inches face. Carriage roller axles 2 inch dia. Rollers either flat and grooved, or flanged, 10 inch dia. Steel 20-pound tee rail The carriage track rail is planed, and the rollers are turned.

Price of Single Mill Frame only without saws, $375 00; price of double mill frame only, without saws, $505 00; carriage wood work of 6x8 inch Norway pine timbers edges faced with iron, per foot $5 00; three and one-half inch face rack for same, with bolts, per foot, 75c; ten inch iron trucks, fitted to 2 inch axes, with self-oiling babbitted boxes, one roller flat and one grooved, $17 50; twenty pound steel rail, planed flat on top, per foot, 50c; Same, planed flat on top, and edges beveled, for Guide rail, per foot, 55

No. 4 CONTINENTAL MILL—IRON FRAME.

This is our largest Mill, and we consider it the best in the market where very large capacity is desired. It will carry up to a 60-inch bottom and 30-inch top saw Letter "G" or "H" head blocks are usually furnished. The husk is 9 feet long, 5 feet wide 12 inches deep, and 6 inches wide on top, Steel arbor 4 inches dia , with 2 bearings 14 inches long, and 1 center bearing 6 inches long Saw collar 6½ inches dia. Arbor pulley 28x16 inches Gig pulley 30x10. Gig and feed pulleys, paper friction, 14½ inch and 8 inch dia , 10 inch face Gig pulley on main arbor 17x10 Rack pinion shaft 3 inch dia. Rack pinion 7 inch dia , 6 inch face. Lumber rollers, turned, and running on turned shafts in cast frames, 4 inch dia , 20 inch long Revolving wedge steel, turned, 16 inch dia Upper feed shaft 2¾ inch. Feed pulleys 16x6 Intermediate feed shaft 2 inch dia Main belt tightener pulley 16x16, Upper arbor steel, 2¾ inch with 3 long bearings Upper arbor pulley 14x10. Pulley to drive upper arbor 28x10 Upper arbor tightener pulley 12x11 Carriage is made of suitable width to fit any style of head blocks out of 6 by 10 inch timbers Rack stick 30 feet long. Can make the carriage any length desired, and up to 20 feet in one section Rack iron 6 inch face Carriage roller axles 2¾ inches dia Carriage rollers either flat and grooved, or flanged, 10 inch dia. 30-pound steel rail The carriage track rail is planed and the rollers are turned.

Price of Single Mill Frame only, without saws, $500 00; price of double mill frame only, without saws, $675 00; carriage wood work of 6 by 10 inch Norway pine timbers, edges faced with iron, per foot, $6 00; six inch face rack for same with bolts, per foot $1 20, ten inch iron trucks fitted to 2¾ inch axles with self-oiling babbitted boxes, one roller flat and one grooved, $20 00, steel railroad rail weighing 30 pounds per yard, planed flat on top per foot, 80c, steel railroad rail, weighing 35 pounds per yard, planed flat on top and edges beveled, for guide rail, per ft., 85c.

No. 1 CONTINENTAL IRON FRAME SAW MILL.

This is the strongest, most complete and best made Saw Mill of its size and capacity in the market. We invite a careful examination of dimensions given below It is built either double or single, and will carry up to a 60-inch bottom and a 30-inch top saw. Letter "C2" head blocks are furnished in the regular equipment, but others will be substituted at the difference in price, as per Head Block List.

The husk is wholly of iron, 7 feet long, 3 feet 9 inches wide, 11 inches deep, and 4 inches wide on top Main arbor of steel, 3 inches dia , with bearings 8½ inches long Arbor pulley 24 inches dia 12 inch face. Gig pulley 24x4 Gig and feed pulleys, paper friction, 13 and 5 inch dia 4-inch face Gig pulley on main arbor 14½x4. Rack pinion 4 inches dia. 2¾ inch face, 10 cogs Lumber roller in cast frame 3 inches dia. Revolving wedge 9 inch. Belt tightener pulley 12x12 Upper arbor 2 inches dia, with bearings 6 inches long. The carriage is made in two 12-foot sections, with 5½x4½ inch timbers. The rack stick is 30 feet long Rack iron 2 inch face Carriage roller shafts 1¾ inches dia rollers 8 inches dia , flat and grooved. Wrought iron tee and flat track iron.

The mill complete consists of. The husk, twenty-four feet of carriage, two letter "C2" head blocks with 24 feet of 1¾ inch setting shaft, keyseated the full length, sixty feet of each tee and flat track iron, feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, screws for track rail, holding down bolts for the mill, etc.

Price of the mill complete, without saw or driving belt, $300 00; extra for top rig without saw when double mill is wanted, $75 00; extra length of No 1 carriage, per foot, $3 50, extra flat track iron per foot, 12½c.; extra tee track iron, per foot, 20c.

No. 2 CONTINENTAL MILL IRON FRAME.

This mill is built double and single, and will carry up to a 60-inch bottom and 30-inch top saw Letter "C3" head blocks are furnished in regular equipment, but others will be substituted at the difference in price, as per head block list.

The husk is 7 feet 2 inches long, 4 feet wide, 11 inches deep, and 4 inches wide on top Arbor of steel, 3½ inches dia. with bearings 10 inches long Arbor pulley 24 inches dia. 12 inch face Gig pulley 24x5 inch face Gig and feed pulleys, paper friction, 13 inch and 6½ inch dia , 5 inch face. Gig pulley on main arbor 15x5. Rack pinion 4x2¾, 10 cogs. Lumber roller 3 4 inch. Revolving wedge 11 inch dia Belt tightener pulley 12x12 Upper arbor 2 inches dia., bearings 6 and 8 inches long Upper arbor pulley 14x7¼; Pulley to drive upper arbor 24x7⅛. Upper arbor tightener pulley 8x8 Carriage in two 12-foot sections of 6x6-inch timbers Rack stick 30 feet long. Rack iron 2½ inch face. Rollers, flanged, 9 inches dia., with 1¾ inch shafts. 12-pound tee rail

Mill complete consists of. The husk, twenty-four feet of carriage, two letter "C3" head blocks with 24 feet of 2-inch setting shaft, one hundred and twenty feet of rail, with spikes for same; feed belts, saw wrench, oil can, monkey wrench, saw upset, pulley with boxes for belt tightener, one cant hook, holding down bolts for the mill, etc.

Price of Single Mill complete without saw or main driving belt, $350 00; extra for top rig without saw, when double mill is wanted, $90 00 extra for flanged track iron and carriage rollers, $30 00, extra length of No. 2 carriage, per foot, $4.00; extra 12 pound steel rail, per foot, 30c.

No. 3 CONTINENTAL MILL IRON FRAME.

Our No. 3 mill compares favorably with other manufacturers' MAMMOTH size It carries 60-inch bottom and 30 inch top saw. Letter "F" or "G" head blocks are usually furnished The husk is 8 feet long 5 feet wide, 11 inches deep, and 4 inches wide on top. Steel arbor 3½ inches dia with 2 bearings 14 inches long, and center bearing Saw collar 6½ inches dia. Arbor pulley 24x14 Gig pulley 26x6 Gig and feed pulleys, paper friction, 13 inch and 6½ dia. by 6 inch face. Gig pulley on main arbor 15x6. Rack pinion shaft 2½ inch dia. Rack pinion 6 inch dia , 3½ inch face. Lumber rollers, turned, 3¾ inch dia. Steel revolving wedge, turned, 14 inch dia. Feed pulleys 15x5. Main belt tightener pulley 14x14 Upper arbor steel, 2 inches dia. with 3 bearings, Upper arbor pulley 14x8 Pulley to drive upper arbor 28x8. Carriage of 6x8 inch Timbers Rack Stick 30 feet long (can make Carriage any length desired, and up to 20 feet in one section). Rack Iron 3½ inches face. Carriage roller axles 2 inch dia. Rollers either flat and grooved, or flanged, 10 inch dia. Steel 20-pound tee rail The carriage track rail is planed, and the rollers are turned.

Price of Single Mill Frame only without saws, $375 00; price of double mill frame only, without saws, $505 00; carriage wood work of 6x8 inch Norway pine timbers edges faced with iron, per foot $5 00; three and one-half inch face rack for same, with bolts, per foot, 75c; ten inch iron trucks, fitted to 2 inch axes, with self-oiling babbitted boxes, one roller flat and one grooved, $17 50; twenty pound steel rail, planed flat on top, per foot, 50c; Same, planed flat on top, and edges beveled, for Guide rail, per foot, 55

No. 4 CONTINENTAL MILL—IRON FRAME.

This is our largest Mill, and we consider it the best in the market where very large capacity is desired. It will carry up to a 60-inch bottom and 30-inch top saw Letter "G" or "H" head blocks are usually furnished. The husk is 9 feet long, 5 feet wide 12 inches deep, and 6 inches wide on top, Steel arbor 4 inches dia , with 2 bearings 14 inches long, and 1 center bearing 6 inches long Saw collar 6½ inches dia. Arbor pulley 28x16 inches Gig pulley 30x10. Gig and feed pulleys, paper friction, 14½ inch and 8 inch dia , 10 inch face Gig pulley on main arbor 17x10 Rack pinion shaft 3 inch dia. Rack pinion 7 inch dia , 6 inch face. Lumber rollers, turned, and running on turned shafts in cast frames, 4 inch dia , 20 inch long Revolving wedge steel, turned, 16 inch dia Upper feed shaft 2¾ inch. Feed pulleys 16x6 Intermediate feed shaft 2 inch dia Main belt tightener pulley 16x16, Upper arbor steel, 2¾ inch with 3 long bearings Upper arbor pulley 14x10. Pulley to drive upper arbor 28x10 Upper arbor tightener pulley 12x11 Carriage is made of suitable width to fit any style of head blocks out of 6 by 10 inch timbers Rack stick 30 feet long. Can make the carriage any length desired, and up to 20 feet in one section Rack iron 6 inch face Carriage roller axles 2¾ inches dia Carriage rollers either flat and grooved, or flanged, 10 inch dia. 30-pound steel rail The carriage track rail is planed and the rollers are turned.

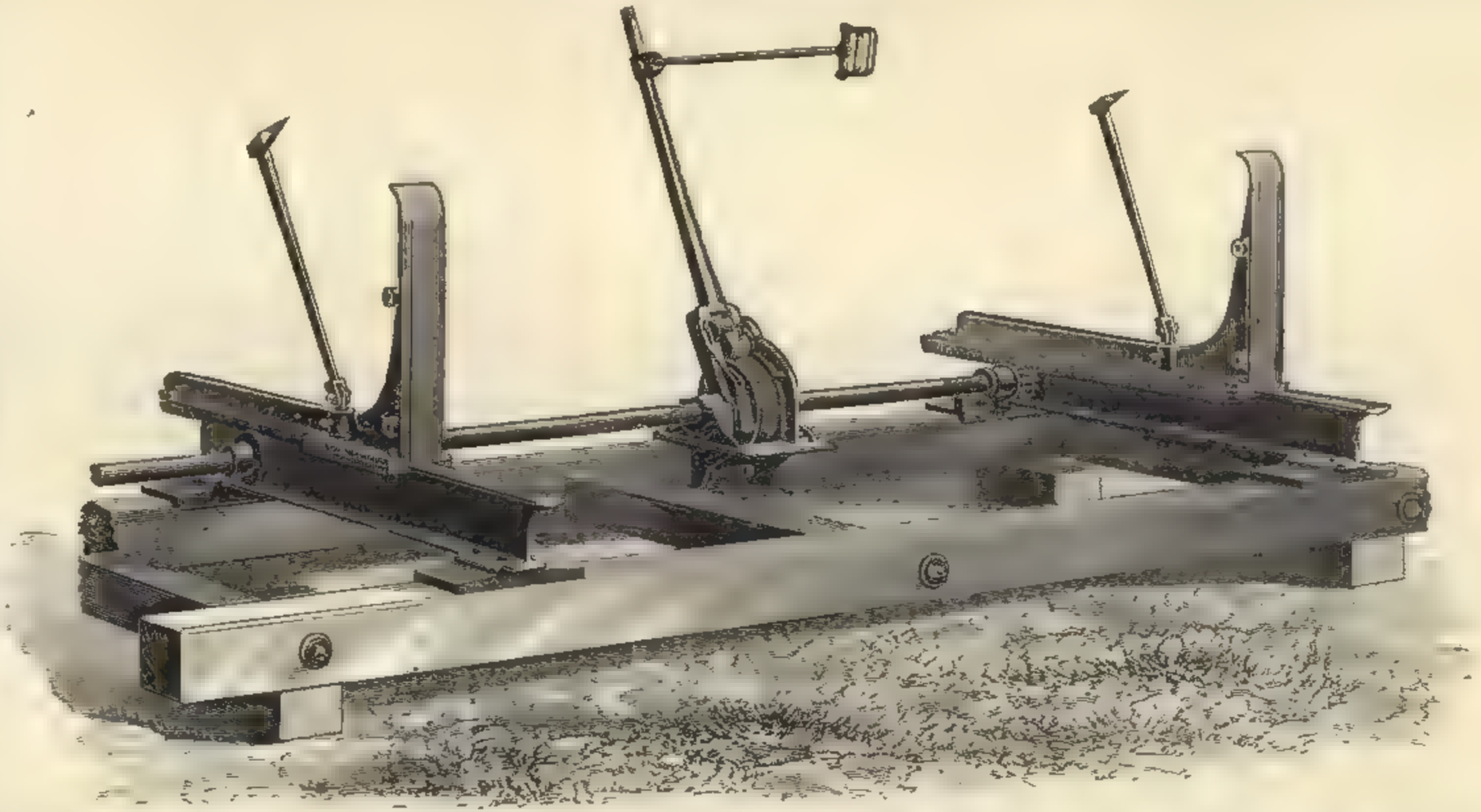
Price of Single Mill Frame only, without saws, $500 00; price of double mill frame only, without saws, $675 00; carriage wood work of 6 by 10 inch Norway pine timbers, edges faced with iron, per foot, $6 00; six inch face rack for same with bolts, per foot $1 20, ten inch iron trucks fitted to 2¾ inch axles with self-oiling babbitted boxes, one roller flat and one grooved, $20 00, steel railroad rail weighing 30 pounds per yard, planed flat on top per foot, 80c, steel railroad rail, weighing 35 pounds per yard, planed flat on top and edges beveled, for guide rail, per ft., 85c.

THE HAMILTON IMPROVED HEAD-BLOCKS.

LATEST IMPROVED RACK-AND-PINION LEVER-SETTING HEAD-BLOCKS.

The most important part of a saw mill is the Head-Blocks. To make good lumber they must be reliable simple, quick to operate and absolutely accurate. Our Blocks meet all these requirements. They are made wholly of wrought iron and steel, and are the strongest built of any in the market. All the ratchet setting wheels are machine cut, from solid metal, which makes them mathematically correct.

LETTER "C" HEAD-BLOCKS.



PRICES.

C-1, with 16 ft. 1⅛ in. set Shaft, will take up to a 36 in. log,	$ 75 00
C-2, with 24 ft. 1¾ in. set Shaft, will take up to a 40 in. log,	85 00
C-3, with 24 ft. 2 in. set Shaft, will take up to a 42 in. log,	100 00

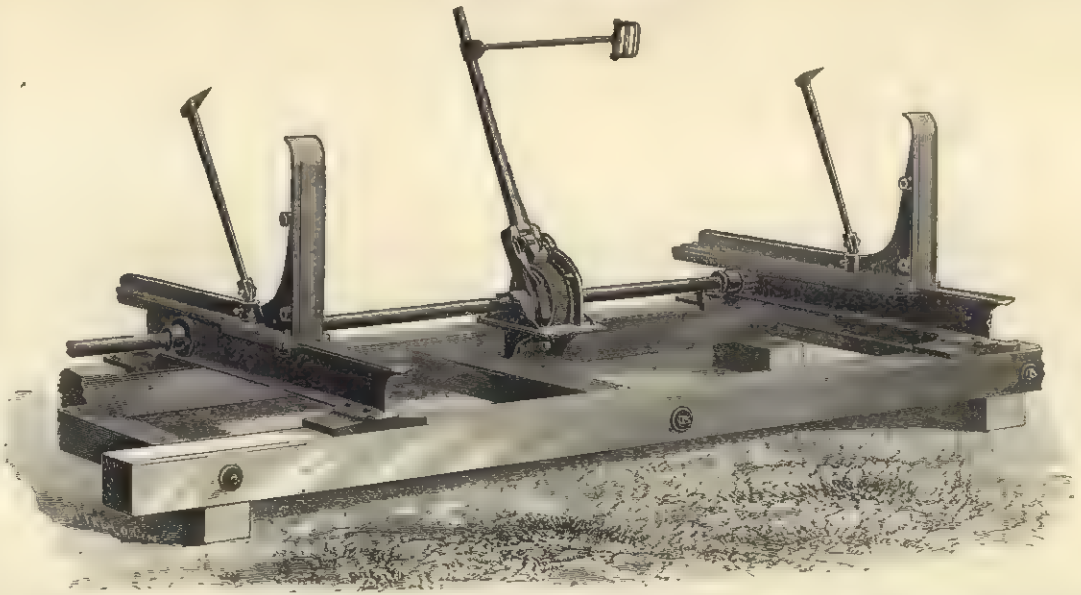
Our "C" Blocks are both Independent and Simultaneous Lever-setting; have a 1½ inch setting shaft, key seated the full length, by which they can be moved on the carriage very quickly to suit different lengths of timber; set from ⅛ to 2½ inches at each forward throw of the lever; so arranged that sawyer can do his own setting. By means of the double handle and connections, he is enabled to move the knees either back or forward without leaving his place at the saw. The pawl hangs on a pivot and is connected by a chain to the inner handle. When setting the log up the inner handle is not used. When the knees are to be moved back pulling the inner handle forward lifts the front pawls out and throws the back pawls in. The knees can also be run either back or forward by means of a hand wheel which is furnished with the blocks. The bodies are divided off into 1-4 inches, in large plain figures.

THE HAMILTON IMPROVED HEAD-BLOCKS.

LATEST IMPROVED RACK-AND-PINION LEVER-SETTING HEAD-BLOCKS.

The most important part of a saw mill is the Head-Blocks. To make good lumber they must be reliable simple, quick to operate and absolutely accurate. Our Blocks meet all these requirements. They are made wholly of wrought iron and steel, and are the strongest built of any in the market. All the ratchet setting wheels are machine cut, from solid metal, which makes them mathematically correct.

LETTER "C" HEAD-BLOCKS.



PRICES.

C-1, with 16 ft. 1½ in. set Shaft, will take up to a 36 in. log, $ 75 00
C-2, with 24 ft. 1¾ in. set Shaft, will take up to a 40 in. log, 85 00
C-3, with 24 ft. 2 in. set Shaft, will take up to a 42 in. log, 100 00

Our "C" Blocks are both Independent and Simultaneous Lever-setting; have a 1½ inch setting shaft, key-seated the full length, by which they can be moved on the carriage very quickly to suit different lengths of timber; set from ⅛ to 2½ inches at each forward throw of the lever; so arranged that sawyer can do his own setting. By means of the double handle and connections, he is enabled to move the knees either back or forward without leaving his place at the saw. The pawl hangs on a pivot and is connected by a chain to the inner handle. When setting the log up the inner handle is not used. When the knees are to be moved back pulling the inner handle forward lifts the front pawls out and throws the back pawls in. The knees can also be run either back or forward by means of a hand wheel which is furnished with the blocks. The bodies are divided off into 1-4 inches, in large plain figures.

BUFFALO STEEL PRESSURE BLOWERS.

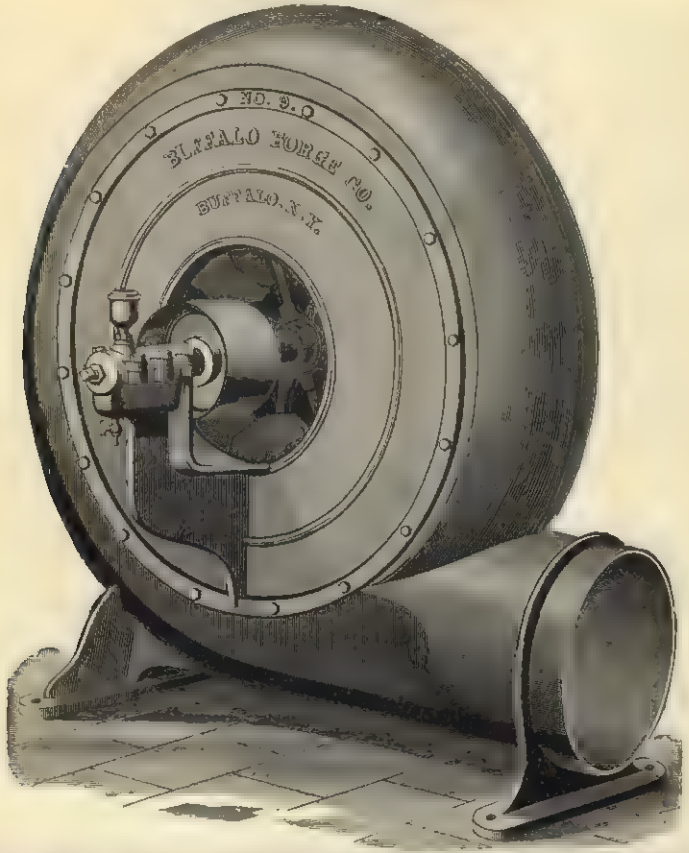
Buffalo Steel Pressure Blowers, priced below, are of the regular construction, and Nos. 1 to 6 have but one pulley; Nos. 7 to 12, inclusive, have two pulleys.

These Blowers are of superior design, run with less power, are more durable and so proportioned as to give a stronger blast, and are sold at lower prices for the same size or capacity than those of any other manufacture.

Trade Number.	Total Height in Inches	Price without Countershaft.	Price with Countershaft.*	Outside Diameter of Outlet	Pulleys. Diameter.	Pulleys. Face.	For Forge Fires. Number of Forges Ordinary Size adapted to 8 to 4 oz at	For Forge Fires. Revs. per Minute	For Cupolas. Diameter Inside of Cupola Inches	For Cupolas. 8 to 12 oz. at Revs. per Minute.	Weight, packed for shipment.
1	12½	$ 12 00	$ 20 00	3⅛	2½	x 1¾	...	.....	..	.....	45
2	15	18 00	28 00	4	2½	x 2¼	4	4825	..	.....	70
3	20	26 00	38 00	4⅝	3¼	x 2⅝	5	3977	...	..	95
4	24	36 00	52 00	5½	4	x 3	6	3318	20	4732	135
5	26	44 00	64 00	5⅞	4½	x 3	7	2952	25	4200	190
6	30	55 00	80 00	6½	4½	x 3½	9	2556	30	3660	235
7	35	70 00	100 00	7½	5	x 4½	13	2275	35	3244	335
8	40	90 00	130 00	8⅝	6	x 4½	18	2067	40	2948	490
9	45	115 00	170 00	10	7	x 5	26	1850	45	2785	660
10	56	160 00	230 00	12½	8	x 5⅝	38	1371	55	2195	975
11	66	225 00	300 00	14⅝	9	x 6¼	60	1108	65	1952	1400
11½	76	275 00	350 00	16½	10	x 7	92	960	72	1647	1800
12	80	325 00	400 00	18	10	x 8	98	900	84	1647	.. ...

* For weight of countershaft, see page 78.

BUFFALO B VOLUME BLOWERS.



This type of Blower is designed for service requiring a large volume of air at considerably heavier pressure than can be produced with ordinary types of Fans. It is especially recommended for blowing forge fires, puddling furnaces, and supplying draft to steam boilers. It is built with reference to durability and smooth running under prolonged and severe service, also to withstand the action of acid fumes, and the wear of grit and sand. The fan shaft has patent self oiling bearings at each end. Like the Buffalo Steel Pressure Blowers, 'B' Volume Blowers and Exhaust Fans are built with a solid shell or casing to which the center plates are fitted, and have a smaller number of parts than any others made—an important point in all high speed machinery.

Price List and Dimensions.

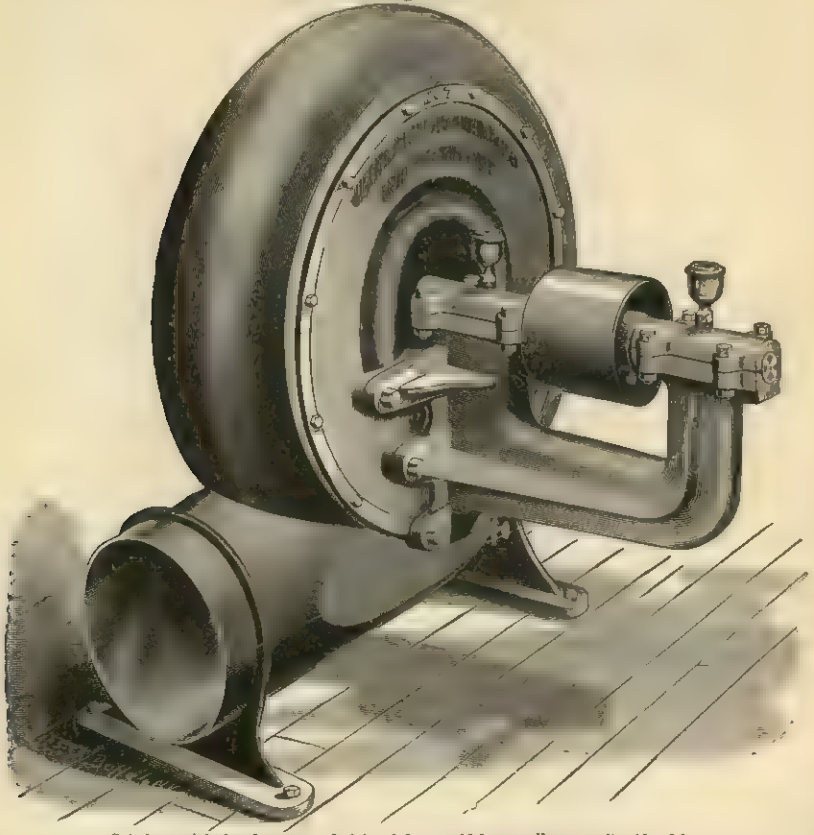
No. of Blower	Height in Inches.	Outside Diameter of Outlet	PULLEYS. Diameter	PULLEYS. Face	Price.	Shipping Weight	No. of Blower	Height in Inches.	Outside Diameter of Outlet	PULLEYS. Diameter	PULLEYS. Face	Price.	Shipping Weight.
1 B	15¼	5	2¾	2½	$ 20 00	75	7 B	43	14	7¼	6¼	90 00	485
2 B	19¼	6	3¼	2¾	25 00	115	8 B	48	16½	8½	7½	150 00	720
3 B	25	7½	4	3¼	33 00	250	9 B	55	18	9½	8½	200 00	1100
4 B	30	9	5	4	44 00	275	10 B	68	21	12	11	250 00	1520
5 B	32	10½	5¾	4½	55 00	395	11 B	79	24	14	12	350 00	2575
6 B	37½	12	6½	5½	70 00	420							

Boiler Grate Surface, Amount of Air and Sizes of Pipe Required.

Number Square Feet Grate Surface.	Cubic Ft. of Air to be Supplied per Minute.	Diam of Blast Pipe Required. 1-ounce.	Diam of Blast Pipe Required. 1¼-ounce.	Number Square Feet Grate Surface.	Cubic Ft. of Air to be Supplied per Minute	Diam of Blast Pipe Required. 1-ounce.	Diam of Blast Pipe Required. 1¼-ounce.
0	1250	6¾"	6¼"	22	2750	10 "	9¼"
2	1500	7¼"	7 "	24	3000	10¾"	9¾"
4	1750	8 "	7½"	26	3250	10½"	10 "
16	2000	8½"	8 "	28	3500	11 "	10¼"
18	2250	9 "	8¼"	30	3750	11½"	10¾"
20	2500	9½"	8¾"				

BUFFALO "B" VOLUME EXHAUSTERS.

With Overhung Blast Wheel.



Cut shows right-hand pattern. Left-hand fan would have pulley opposite side of fan.

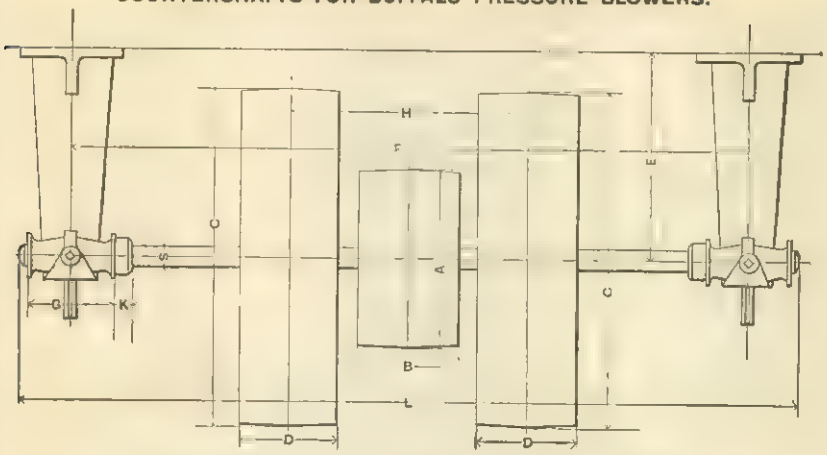
These Exhausters are especially adapted for ventilating mines and underground apartments, for removing smoke and gas from shops, chemical works and factories, for removing dust and offensive odors wherever it is desirable to do so, and for use in packing-houses, refrigerating cars, etc. We can also furnish them with copper or bronze blast wheel for use in removing acid fumes.

These fans are built with special reference to durability and smooth running under prolonged and arduous service, and to withstand the wear of grit and sand.

By our perfect system of gauges and templates the different parts of the fan are so well proportioned and fitted that at the highest speed there is practically no vibration, as it is impossible for the bearings to be otherwise than in perfect alignment with the body of the Exhauster under any service. Both bearings are on one side, leaving the inlet entirely unobstructed. Like our Steel Pressure Blowers, these Blowers and Exhausters are made with solid shell or case, and have a smaller number of parts than any others made—a very important point in all high speed machinery.

Number of Blower or Exhauster.	Height in Inches.	Diameter of Outlet and Inlet.	Diameter of Pulley.	Face of Pulley.	Price.
1 B	15¼	5	2¾	2¼	$ 20 00
2 B	19¼	6	3¾	2¾	25 00
3 B	25	7½	4	3¼	33 00
4 B	29	9	5	4	44 00
5 B	32	10½	5¾	4½	55 00
6 B	37¾	12	6½	5½	70 00
7 B	43	14	7½	6½	90 00
8 B	48	16½	8½	7½	150 00
9 B	55	18	9¼	8½	200 00
10 B	68	21	12	10	250 00
11 B	70	24	14	12	350 00

COUNTERSHAFTS FOR BUFFALO PRESSURE BLOWERS.



Nos. 1 to 6, inclusive, have but one pulley; Nos. 7 to 12 have two pulleys.

PRICE LIST AND DIMENSIONS—In Inches.

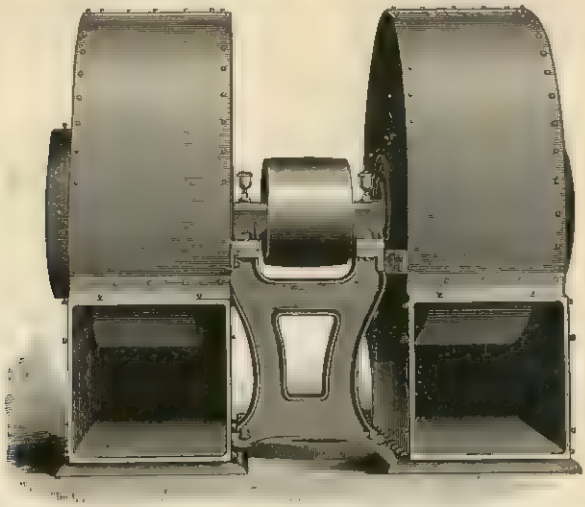
No. of Countershaft and also of Blower.	S	L	A	B	C	D	E	F	G	H	K	Weight	Price with One Pulley	Price with Two Pulleys
1	$\frac{7}{8}$	19$\frac{3}{8}$	4	3	12	1$\frac{3}{4}$	6$\frac{7}{8}$	15$\frac{1}{2}$	4	.....	$\frac{7}{8}$	45	$ 8 00	.....
2	1	21$\frac{1}{2}$	5	3$\frac{1}{2}$	14	2$\frac{1}{4}$	8$\frac{1}{4}$	17$\frac{1}{2}$	4	.....	1	60	10 00	.....
3	1$\frac{1}{8}$	23$\frac{1}{4}$	6	4	16	2$\frac{3}{4}$	9$\frac{1}{4}$	18$\frac{3}{4}$	4	.....	1$\frac{1}{4}$	80	12 00	.....
4	1$\frac{1}{4}$	26$\frac{1}{4}$	7	4$\frac{1}{2}$	18	3	9$\frac{1}{2}$	21$\frac{1}{2}$	4$\frac{1}{2}$	.....	1$\frac{1}{2}$	100	16 00	.....
5	1$\frac{3}{8}$	27$\frac{3}{4}$	8	4$\frac{1}{2}$	21	3	10$\frac{3}{4}$	22$\frac{1}{2}$	5	.....	1$\frac{5}{8}$	130	20 00	.....
6	1$\frac{1}{2}$	31	9	5	26	3$\frac{1}{4}$	12$\frac{1}{2}$	25$\frac{1}{4}$	5$\frac{1}{2}$	.....	2	195	25 00	.....
7	1$\frac{5}{8}$	39$\frac{1}{2}$	10	5$\frac{1}{4}$	30	4$\frac{1}{2}$	15$\frac{1}{2}$	33$\frac{1}{2}$	6	12$\frac{1}{2}$	2$\frac{1}{2}$	320	30 00	$35 00
8	1$\frac{13}{16}$	44	12	6	32	4$\frac{1}{2}$	16$\frac{1}{2}$	37$\frac{1}{4}$	6$\frac{1}{2}$	15$\frac{1}{2}$	2$\frac{1}{2}$	375	40 00	45 00
9	2$\frac{1}{4}$	48$\frac{1}{2}$	14	6	36	5	18$\frac{5}{8}$	41$\frac{1}{4}$	7	16$\frac{5}{8}$	2$\frac{1}{2}$	560	50 00	60 00
10	2$\frac{7}{16}$	52$\frac{3}{8}$	16	8	40	5$\frac{1}{2}$	20$\frac{1}{2}$	44$\frac{1}{2}$	7$\frac{1}{2}$	19	3	650	70 00	80 00
11	2$\frac{1}{2}$	62	17	10	42	6$\frac{1}{2}$	23$\frac{1}{2}$	51	9	22$\frac{1}{2}$	3	.....	80 00	90 00
11$\frac{1}{2}$	3	73$\frac{1}{2}$	18	12	44	7	23$\frac{1}{2}$	64	9	24$\frac{1}{2}$	3$\frac{1}{2}$	.....	90 00	100 00
12	3	76$\frac{1}{4}$	18	12	44	8	23$\frac{1}{2}$	67	9	24$\frac{1}{2}$	3$\frac{1}{2}$	.....	100 00	110 00

PRICE LIST AND DIMENSIONS OF COUNTERSHAFTS FOR B VOLUME BLOWERS AND EXHAUSTERS.

(One Drive Pulley, only. Figures and letters apply to above sketch.)

No. of Countershaft.	S	L	A	B	C	D	E	F	G	K	PRICE.
1	1$\frac{1}{8}$	22$\frac{3}{4}$	6	4	16	2$\frac{1}{4}$	9$\frac{1}{4}$	18$\frac{1}{2}$	4	1$\frac{1}{8}$	$12 00
2	1$\frac{1}{4}$	25$\frac{1}{8}$	7	4$\frac{1}{2}$	18	2$\frac{3}{4}$	9$\frac{1}{2}$	21$\frac{1}{2}$	4$\frac{1}{2}$	1$\frac{1}{4}$	14 00
3	1$\frac{3}{8}$	28	8	4$\frac{1}{2}$	21	3$\frac{1}{4}$	10$\frac{3}{4}$	22$\frac{1}{2}$	5	1$\frac{3}{8}$	18 00
4	1$\frac{1}{2}$	31	9	5	26	4	12$\frac{1}{2}$	25$\frac{1}{4}$	5$\frac{1}{2}$	2	24 00
5	1$\frac{5}{8}$	34$\frac{1}{4}$	10	5$\frac{1}{2}$	30	4$\frac{1}{2}$	15$\frac{1}{2}$	28	6	2$\frac{1}{2}$	30 00
6	1$\frac{13}{16}$	37$\frac{3}{4}$	12	6	32	5$\frac{1}{4}$	16$\frac{1}{2}$	31	6$\frac{1}{4}$	2$\frac{1}{2}$	40 00
7	2$\frac{1}{4}$	40$\frac{1}{2}$	14	6	36	6$\frac{1}{2}$	18$\frac{5}{8}$	33	7	2$\frac{1}{2}$	50 00
8	2$\frac{7}{16}$	46$\frac{1}{2}$	16	8	40	7$\frac{1}{2}$	20$\frac{1}{2}$	39	7$\frac{1}{2}$	3	65 00
9	2$\frac{3}{4}$	51	18	8	42	8$\frac{1}{2}$	23$\frac{1}{2}$	40	9	3	80 00
10	3	56	20	9	44	10	23$\frac{1}{2}$	45	9	3$\frac{1}{2}$	85 00
11	3	61	22	10	48	12	23$\frac{1}{2}$	50	9	3$\frac{1}{2}$	90 00

BUFFALO STEEL PLATE DOUBLE PLANING MILL EXHAUSTERS.



Although adapted to other uses this type of fan is primarily designed for removing chips, shavings and other refuse from wood-working machinery No other style of fan construction shows as many radical and recent improvements as our Planing Mill Exhausters With the exception of the bottom plate, mouthpiece and standard for the journal boxes, they are built of steel Steel plate is used for the shells, with heavy base angle irons The wheel shaft and pulleys are supported by a standard with broad base, this rests on the floor and removes all strain from the side of the shell A substantial support for the running parts of the exhauster is also provided The blast wheels are of the latest improved design The spider is of cast iron with the hub accurately bored the wheels being keyed and set-screwed securely to the shaft The blades of the wheel are of extra heavy steel, and are substantially built for the hardest service *A special form of wheel construction is used for exhausters required to handle long, stringy shavings* In this type of fan there is no chance whatever for the shavings to be caught and entangled The wheels of all Buffalo Exhausters are accurately balanced, run steadily at high speeds, and produce blast or suction with minimum loss by friction The majority of exhaust fans are inordinate consumers of power Careful tests have shown that with equal conditions, the same amount of power applied to Buffalo Exhausters has yielded greater suction and expulsive force than that obtained from any other fan The absorption of power applied to Buffalo Shaving Exhausters by friction will not exceed ten per cent. to twenty per cent. under proper applications, these results defy comparison

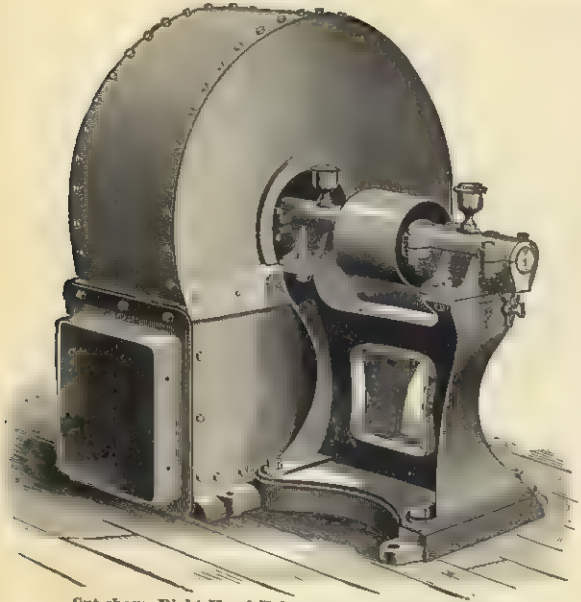
Price List Double Exhausters.

Sizes. Inches.	Diameter Inlets	Size of Outlets	Pulleys. Diameter	Pulleys. Face	Price.	Shipping Weight
30	11	9¾ x 9¾	8	7	$ 90 00	400
35	13	11 x 11	9	8	100 00	600
40	15	13¾ x 13¾	10	9	130 00	800
45	18	15 x 15	11	9½	170 00	1,050
50	19	16 x 16	12	10	210 00	1,350
55	20	18 x 18	13	11	275 00	1,600
60	22	20 x 20	14	12	325 00	1,750

Table of Weights of Galvanized Iron Pipe, in Pounds per Running Foot.

Diameter of Pipe in Inches.	No. 24 Gauge.	No. 22 Gauge.	No. 20 Gauge.	No. 18 Gauge.	No. 16 Gauge.	Diameter of Pipe in Inches.	No. 24 Gauge.	No. 22 Gauge.	No. 20 Gauge.	No. 18 Gauge.	No. 16 Gauge.
4	1¼	1⅝	2	2½	3¼	28	9⅜	11¾	14	18	21½
5	1⅝	2	2½	3⅛	4	30	10	12¼	15	19½	23
6	2¼	2½	3	4	4¾	32	10¾	13	16	21	24½
7	2⅜	3	3½	4½	5¾	34	11⅜	14	17	22	26
8	2¾	3⅜	4	5⅛	6¾	36	12	15	18	24	27½
9	3⅛	3¾	4½	5¾	7	38	12¾	16	19	25	29½
10	3½	4	5	6⅜	7¾	40	13½	17	20	26½	31
11	3¾	4¼	5⅜	7	8¼	42		18	21	28	33
12	4	4⅝	6	7¾	9	44		19	22	30	35
13	4¼	5	6½	8⅜	10	46	.....	20	23	31½	37
14	4⅝	5⅜	7	9	11	48	.....	21	24	33	39
15	5	6	7½	9⅝	12	50	.....	22	25	35	41
16	5⅜	6¼	8	10¼	13	52		...	26	36½	43
18	6	7⅛	9	11½	14¼	54	.....		27	38½	45
20	6⅝	8	10	12¾	15½	56			28	40	47
22	7⅜	8¾	11	14	16¾	58			29	42	49
24	8	9⅝	12	15¼	18¼	60			30	44	51
26	8¾	10½	13	16½	20	..					.....

BUFFALO STEEL PLATE EXHAUST FANS.



Cut shows Right Hand Exhaust Fan, Bottom Discharge.

These Exhausters are Especially Adapted to Planing Mill Work, but are Equally Efficient in Other Service.

The cut represents an improved Exhaust Fan, with shell made wholly of *steel plate*, and journal bearings bolted to the base, instead of an overhanging arm bolted to the side of the shell. It will thus be seen that should any blocks or heavy material pass through the fan, the shock and vibration of the shell is not transmitted to the journals.

The blast wheels are made wholly of sheet and cast steel.

We use large diameters of shafts and long, heavy journals.

The journals are all hardened after being turned, *and then ground accurately to standard gauge.*

We can furnish these fans with right or left hand bottom discharge, horizontal top discharge, or up blast. Unless otherwise notified, we always ship *right hand bottom discharge.*

PRICE LIST SINGLE FANS.

Sizes.	Diameter Inlets	Size of Outlets	PULLEYS.		Price	Weight, Packed.
			Diameter.	Face.		
30"	11	9½ x 9½	6	4½	$ 55 00	245
36"	13	11 x 11	7	5⅝	70 00	420
40"	15	13½ x 13½	8	6	90 00	545
45"	18	15 x 15	9	6¾	115 00	710
50"	19	16 x 16	10	7	150 00	850
56"	20	18 x 18	11	8	185 00	1150
60"	22	20 x 20	11¾	9	200 00	1355
70"	25	22 x 22	12	10	250 00	1460
80"	31	26 x 26	14	10½	300 00	2000

NOTICE—We always send right-hand bottom horizontal discharge exhausters in the absence of other advice. For top horizontal up blast, or other discharge than the regular bottom horizontal, price must be figured at 10 per cent. advance on list, this being the cost of the extra material and time consumed in making such style of exhausters.

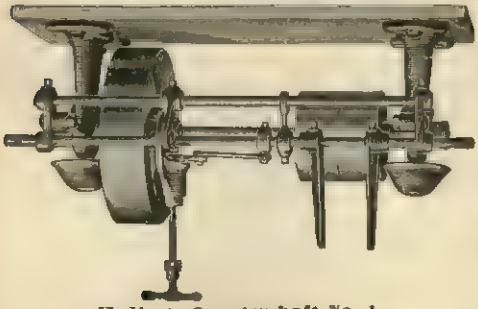
TABLE OF SPEEDS.

Height of Fan	FOR LIGHT WORK.			FOR ORDINARY WORK.			FOR HEAVY WORK		
	½ oz Pressure.	2½ oz Pressure.	4 oz Pressure.	¾ oz Pressure.	1 oz Pressure.	1¼ oz Pressure.	5 oz Pressure.	6 oz Pressure	7 oz Pressure
30"	1814	2600	2226	2402	2576	2732	2886	3168	3429
36"	1498	1661	1800	1982	2084	2210	2363	2593	2769
40"	1348	1561	1677	1762	1825	1934	2044	2240	2429
45"	1174	1308	1442	1555	1668	1768	1869	2037	2221
50"	1082	1205	1327	1432	1536	1629	1721	1890	2045
55"	994	1073	1184	1276	1369	1452	1534	1684	1823
60"	882	982	1083	1168	1252	1328	1403	1540	1667
70"	812	904	995	1075	1158	1223	1292	1419	1535

In the compilation of above table due allowance has been made for loss of peripheral velocity by slipping of belt.

Our Steel Plate Planing Mill Exhausters are often used for removing smoke from forge fires and others similar purposes. For such uses, operating with proper pipe connections, they will be found to yield sufficient suction when run at speeds given for light work.

HADLEY'S PATENT COUNTERSHAFTS.



Hadley's Countershaft No. 1.

Adapted to Emery Grinders and all Rapid Running Machinery.

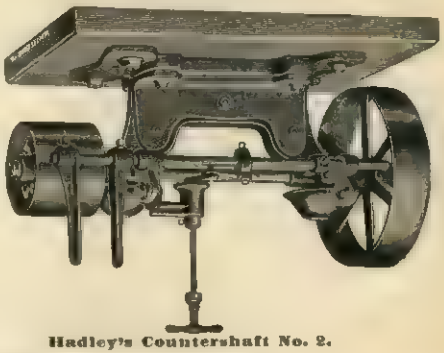
The chief feature of advantage in Hadley's Patent Countershaft is the self-locking belt shifter, by which the belt is held firmly where placed, and the shifting is more easily accomplished than by any other device. With these countershafts the workman has the same control of his machine as with the best of friction countershafts. The construction is superior throughout.

No. 1 Countershaft.

Drop of hangers, 7½ inches; diameter tight and loose pulleys, 6 x 2¾ inches; driving pulley, 12 x 3 inches; length of shaft, 27 inches. Price, $15.00.

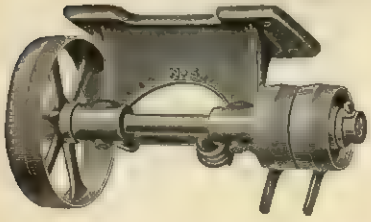
No. 2 Countershaft.

Has tight and loose pulleys, 8 x 4¾ inches; cone pulley, 12 and 13 inch; diameter, 14¾ inch face; drop of hangers, 10 inches; length of shaft, 32 inches. Price, $18.00.



Hadley's Countershaft No. 2.

COMMON COUNTERSHAFTS.

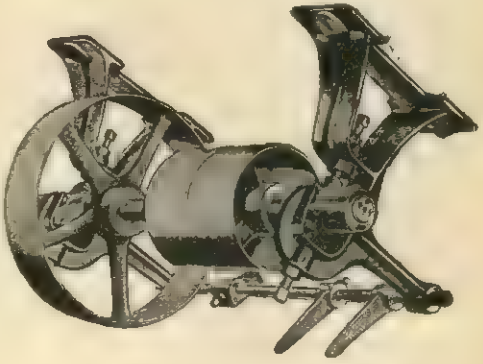


Common Countershaft No. 5.

Has tight and loose pulleys 3¾ inches in diameter, 1¾ inch face. The driving pulley is 8 inches in diameter and 1¾ inch face. Drop of hanger 5 inches. Shaft is 1 inch diameter and 16 inches long. Price, $5.00.

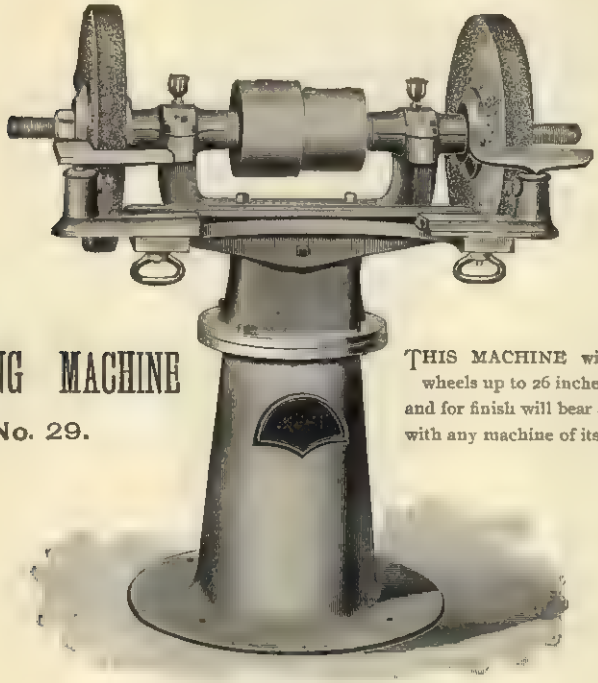
No. 6—Has tight and loose pulleys 5 inches in diameter, 2½ inch face. The driving pulley is 9½ inches in diameter and 2½ inch face. Drop of hanger, 6 inches. Shaft is $1\frac{3}{16}$ inches in diameter and 20 inches long.

No. 7—Has tight and loose pulleys 6 inches diameter and 2½ inch face. Driving pulley, 12 inches diameter and 2½ inch face. Drop of hanger, 8 inches. Shaft is $1\frac{7}{8}$ inches in diameter and 24 inches long. Bearings are self-adjusting. Price, $10.00.



STANDARD GRINDING AND POLISHING MACHINES.

Nos. 7, 8, 16, 25 and 29.



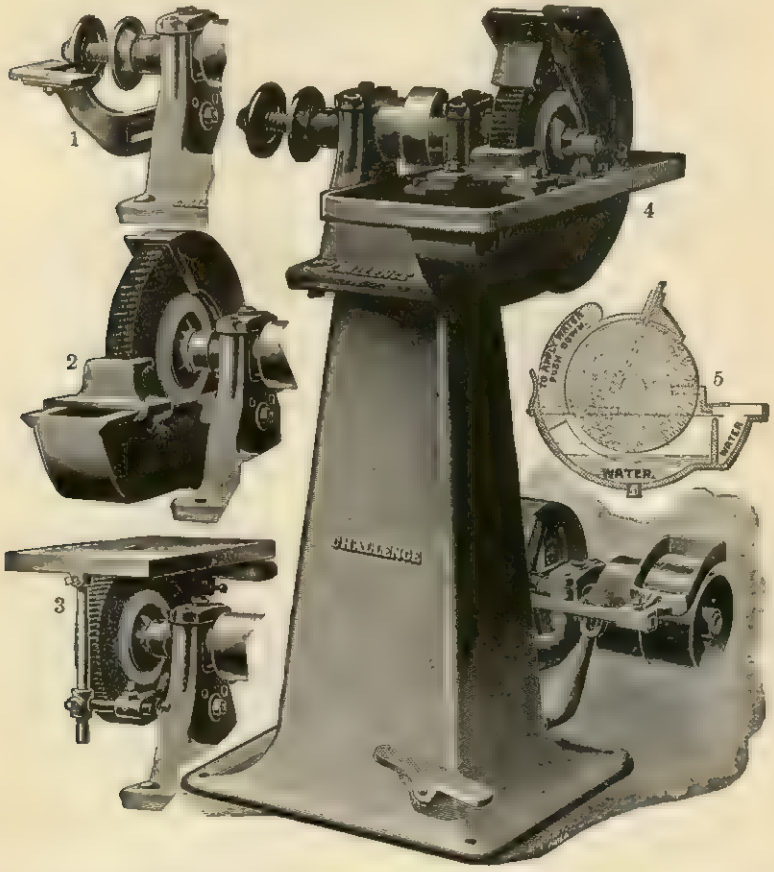
GRINDING MACHINE

No. 29.

THIS MACHINE will run two wheels up to 26 inches diameter, and for finish will bear comparison with any machine of its class.

Number of Machine	7	8	16	25	29
To run two Wheels, Size	10 x 2	12 x 2	14 x 2	16 x 2	26 x 3
Length and diameter of Spindle	19 x 1 3/16	21 x 1 5/16	28 x 1½	33 x 1½	44 x 1¾
Diameter Spindle between Flanges	1⅛	1⅛	1¼	.....	1½
Pulley on Spindle	3½ x 2½	4½ x 2¾	3½ x 3½	4½ & 3½ x 3½	7 & 6 x 4½
Diameter of Flanges	4	4½	.....	.....	.....
Distance between Wheels	.....	12½	17½	21½	28
Height Floor to Spindle	36	36	36	36	35
Weight	210	215	240	260	500
Price with Countershaft, complete	840 00	45 00	62 00	73 00	115 00
Price of Countershaft	10 00	10 00	17 00	18 00	20 00

CHALLENGE IMPROVED EMERY GRINDING MACHINES.

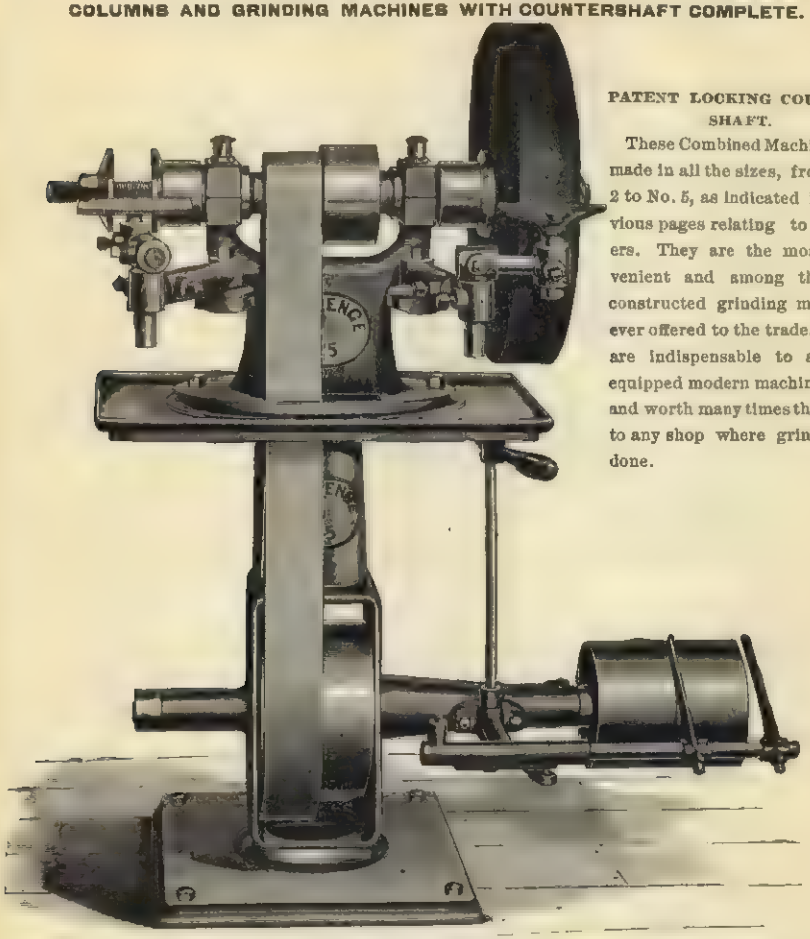


This machine has important advantages possessed by no other Emery Wheel Grinder.

Figs. 1, 2, 3 and 4 are made both *rights* and *lefts;* and, as they merely require to be bolted on, *any arrangement* may be had and *at any time*, whether single or double, or one of each. Fig 1 is a plain L rest, a similar one, a beveled T rest, is provided for the other wheel. Both are adjustable in all directions and for wheels of any thickness. Fig 2 is a "Dry Wheel Guard" Attachment for *catching the grindings*, and for *preventing inhaling dust and grit*, and *injury in case of accident to the wheel*. Fig 3 is a Surface Attachment for grinding flats; a very popular and rapid method. Fig. 4 is a "Wet Wheel Guard" Attachment for tool grinding; water preventing the drawing of temper. Takes the place of grindstones everywhere. Operated as easily as turning a cock (see Fig. 5). Machine is *fi steless* throughout, and has long, adjustable, self aligning, detachable, capped dust-proof babbitted boxes; also two-step pulley for change to faster speed when wheel is worn

No.	Size of Wheels Deduct 2" Diameter for Wet Wheels	Price Bench Machine (Head with Plain Rests.	Price Dry Wheel Guard, each (right or left).	Price Surface Attachment each (right or left).	Price Wet Wheel Guard each, right or left) Wheel Included.	Price "Plain Base" (counter detached).	Price Counter Base" (counter attached as in cut).	Price Overhead Counter.	Spindle Steel).
B	10 x 1 x ¾" hole.	$19 00	$3 00	$20 00	$25 00	$10 00	$25 00	$10 00	20 x 1 1/4"
C	12 x 1½ x 1" hole.	29 00	3 00	25 00	30 00	12 00	30 00	12 00	25 x 1 1/4"
D	14 x 2" x 2" hole.	39 00	3 00	30 00	35 00	15 00	35 00	15 00	30 x 1 1/4"

COLUMNS AND GRINDING MACHINES WITH COUNTERSHAFT COMPLETE.



PATENT LOCKING COUNTERSHAFT.

These Combined Machines are made in all the sizes, from No. 2 to No. 5, as indicated in previous pages relating to Grinders. They are the most convenient and among the best constructed grinding machines ever offered to the trade. They are indispensable to a well-equipped modern machine shop, and worth many times their cost to any shop where grinding is done.

Cut represents No. 5 Column and Grinder complete. (Pattern of machine varies in different sizes. Send for special Circulars.)

No. 5 COLUMN AND No. 5 GRINDING MACHINE, WITH COUNTERSHAFT AND PATENT BELT SHIFTER COMBINED.

Height from floor to center of spindle, 3 ft. 2½ in.; height of column from floor to top of table, 27 in.; iron table 24½x15, base of column 18x18; speed of countershaft, 400 revolutions per minute, which will make on the slowest speed 760 revolutions per minute, on the quickest 1,100 revolutions per minute, driving pulleys, 9½x11 inches in diameter, 3 inch face, tight and loose pulley, 7 inches in diameter, 4½ inch face. Takes wheels 16 x 2 inches.
Price of No. 5 Grinding Machine and Column complete $75 00

No. 2 COLUMN AND GRINDING MACHINE, WITH COUNTERSHAFT

Height to center of spindle, 3 ft. 3 in.; height from floor to top of table, 33½ in.; iron table, 12x10; base of column, 14x12; driving pulley, 9 in. diameter, 2 in. face; tight and loose pulleys, 5 in diameter, 2½ in. face; speed of countershaft, 400. Weight, 105 lbs. Price complete, $27 50. Takes 8x1 emery wheels.

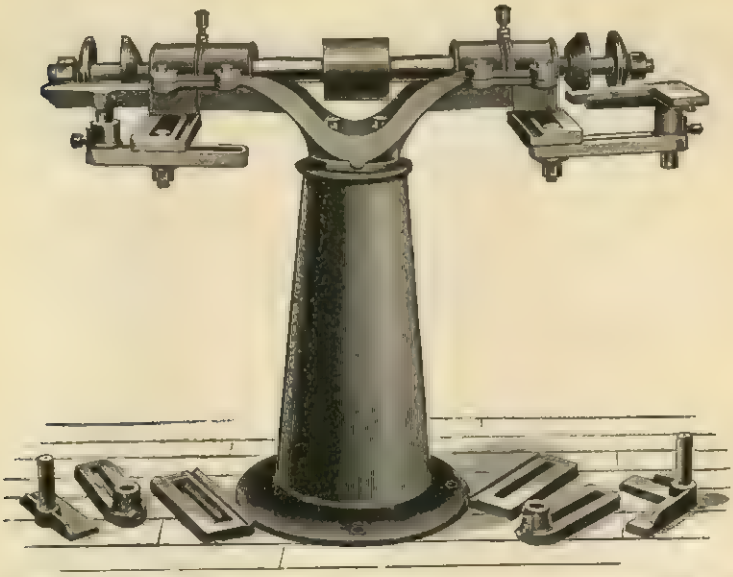
No. 3 COMBINED GRINDER AND COLUMN.

Height from floor to center of spindle, 3 ft. 4½ in., height of column from floor to top of table, 32½ in., iron table, 10x12 in., driving pulley 12 in diameter, 2½ in. face, tight and loose pulley, 6 in. diameter, 3 in. face; base of column, 14x14, speed of countershaft, 450. Weight, 165 lbs. Price complete, $40 00. Takes wheels 10 x 1½ inches.

No. 4 COMBINED GRINDER AND COLUMN.

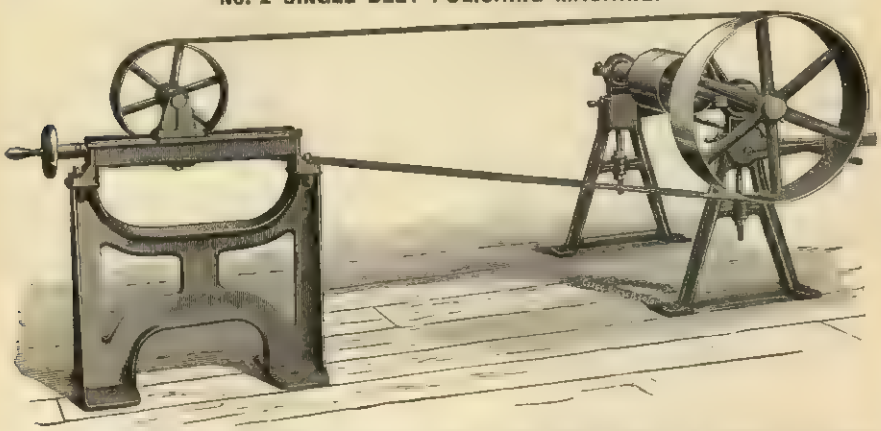
Height from floor to center of spindle, 3 ft. 4½ in.; height of column from floor to top of table, 31 in.; iron table, 20x13 in., base of column 18x18 in., driving pulley, 12 inches in diameter, 3 inch face, tight and loose pulley, 6 in diameter, 3½ in. face; speed of countershaft, 350 revolutions per minute. Weight, 230 lbs. Price complete, $50 00. Takes wheels 10 x 2 inches.

ECONOMY EMERY GRINDER AND POLISHING MACHINE.



This machine is so made that the workman can bring work to the wheels from either side, and large or irregular castings can be handled conveniently. The rests are adjustable either side of the wheel, or in any other desired position. When wanted for polishing only we can furnish the machine without rests, at reduced price, as listed. It is one of the best and cheapest grinders and polishers made. It has a solid cast base 18 inches diameter; height of machine is 33 inches; mandrel 1 3-4 inches diameter, 42 inches long, with 8 inch babbeted bearings. Weight, 225 pounds. Price, complete, as shown in cut, $30 00; price, without rests, $25.00.

No. 2 SINGLE BELT POLISHING MACHINE.



This improved polishing machine for the use of belts covered with flint quartz, for finishing all classes of wood work, iron or steel, is the best device now in use for the purpose. All of the bearings are so enclosed as to prevent the admission of dust or sand.

Usually furnished for 3 inch belts. Wider pulleys, to 10 inches, can be supplied.

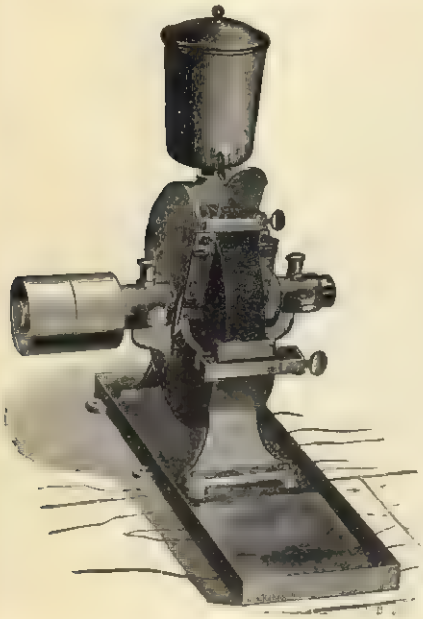
The strainer pulley is 12 x 3½ inches, self-oiling, and adjusts 24 inches. It travels in ways, nicely fitted.

The counter driving pulley is 24 x 3½ inches, with shipper; tight and loose pulleys 10 x 4 inches; speed, 800 revolutions per minute, giving 4,800 feet belt speed. Price, $60 00.

CHALLENGE POLISHING MACHINES, NOS. 3 AND 5.

Number.	Height Bench Machine to Center Spindle.	Spindle. Last Figure Denotes Hole in Wheel.	Price Bench Machine Spindle A. If B, add $2. If C, add $4; If Single Pulley, deduct $1.50	Price on Plain Column	Price Counter.	Weight, Counter.	Weight, Head.	Weight on Column.
3	12	36 x 1¼	$22 00	$34 00	$12 00	75	60	150
5	15	40 x 1¼	30 00	45 00	15 00	110	105	240

STANDARD BENCH TOOL GRINDER.



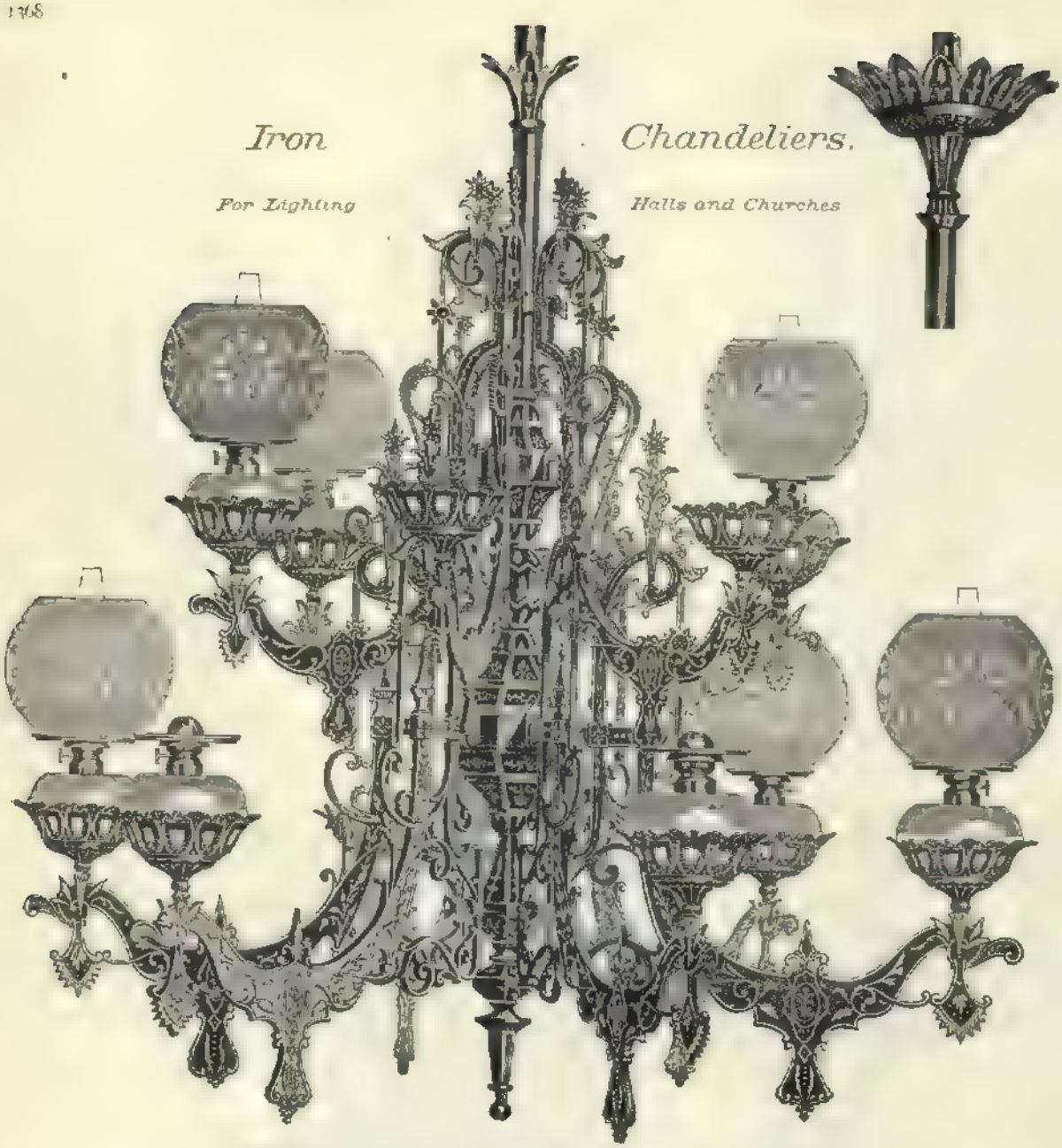
The "Standard" Bench Tool, Grinder is designed to sharpen machinists' tools of all kinds, running a corundum wheel in water. It takes up less room, is cleaner, and is the cheapest general tool grinder made. This machine takes bench room of only 22 x 12 inches. We have adopted for use in this grinder a special corundum wheel, which by reason of its porous nature is constantly moist, and in consequence all danger of drawing the temper from tools is avoided.

Set the grinder on bench or stand, slightly pitched to the front, the near edge of pan projecting over the bench. The water runs to the front (where a hole is drilled), and into a bucket or pail, which can be swung from a hook provided underneath the pan, or a waste pipe can be attached to run the water off. Speed of wheel, 700 to 900 revolutions per minute.

Price, with 10 x 2 inch wheel, single or double pulleys $30 00

Iron Chandeliers.

For Lighting Halls and Churches



NO.	NUMBER OF ARMS.	DESCRIPTION.	EACH.
1012	12	Complete, with Globes. Length 72 inches; Spread, 48 inches. French Bronze Finish.	60 00
1112	12	Complete, with Globes. Length, 72 inches; Spread, 48 inches; Ebony and Gold Finish.	72 00

These Chandeliers are completed with Glass Globes, with outside fillers, No. 2 Favorite Burners and Chimneys, and 6 inch engraved Globes.

FOR OTHER GLOBES, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

Chandeliers.

No.	NO. OF ARMS.	DESCRIPTION.	EACH.
114	4	Complete as shown. Length, 54 inches. Spread, 37 inches. French Bronze, -	$22 20
116	6	Complete as shown. Length, 54 inches. Spread, 37 inches. French Bronze, -	33 35
118	8	Complete as shown. Length, 54 inches. Spread, 37 inches. French Bronze, -	38 90

These Chandeliers are completed with Glass Founts, 5 inch Etched or Engraved Globes, No. 2 Burner, No. 2 Chimney and No. 2 Wick. May be lighted or filled without removing Burner, Chimney or Globe.

FOR OTHER GLOBES, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

No. D784

NO.	NUMBER OF ARMS.	DESCRIPTION.	EACH.
D783	3	Rich Gold Finish, Length 35 inches, Spread 20 inches, complete with 3 Glass Founts, Burners, Chimneys and Globes,	$17 80
D784	4	Same as No. D783, complete with 4 Glass Founts, etc. as shown above,	21 80

These Chandeliers are complete with 6 inch Engraved or Etched Globes. May be lighted and filled without removing Burner, Globe or Chimney.

FOR OTHER GLOBES, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

Central Draft Chandeliers.

No. 984

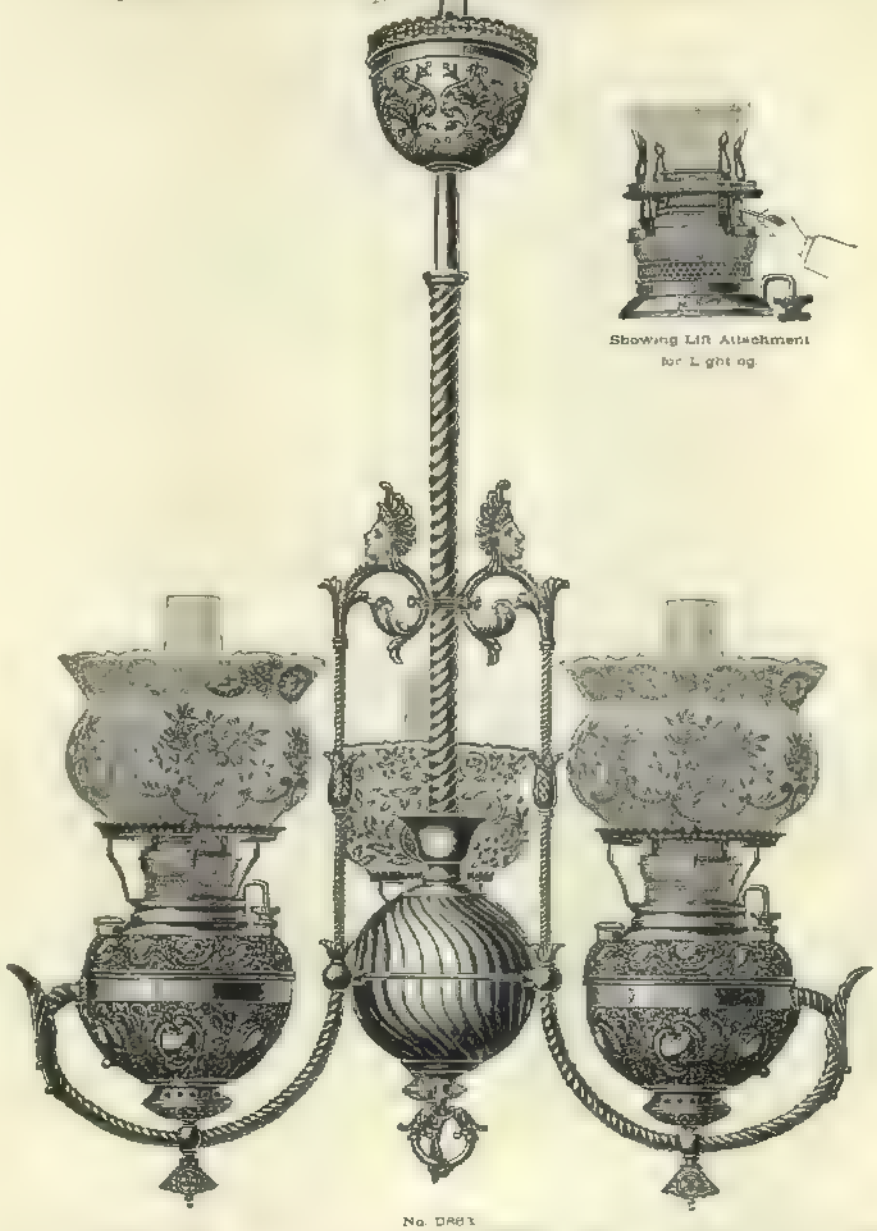
Patent Automatic Spring Extension.

NO	NUMBER OF ARMS	DESCRIPTION	EACH
982	2	Complete, with two No. 2 B. & H. Fonts, Chimneys and Crystal Etched Globes, Polished Bronze Finish, with Old Ivory Trimmings,	$22 20
983	3	Same as No. 982, but with three Fonts, Chimneys and Globes, complete,	29 00
984	4	Same as No. 982, but with four Fonts, Chimneys and Globes, complete as shown,	38 90

Can be lighted without removing Globe or Chimney Length, Closed, 36 inches, Spread, 29 inches

Central Draft Chandeliers.

Showing Lift Attachment for Lighting.



No. D863.

NO.	NUMBER OF LIGHTS	DESCRIPTION.	EACH.
D862	2	Complete with Two No. 2 Miller Detachable Founts, with Chimney Lifts, Chimneys and Globes, Antique Brass Finish.	$29 80
D863	3	Same as No. D862, but with Three Founts, Chimneys and Globes, complete,	38 90
D864	4	Same as No. D862, but with Four Founts, Chimneys and Globes complete, as shown,	50 00

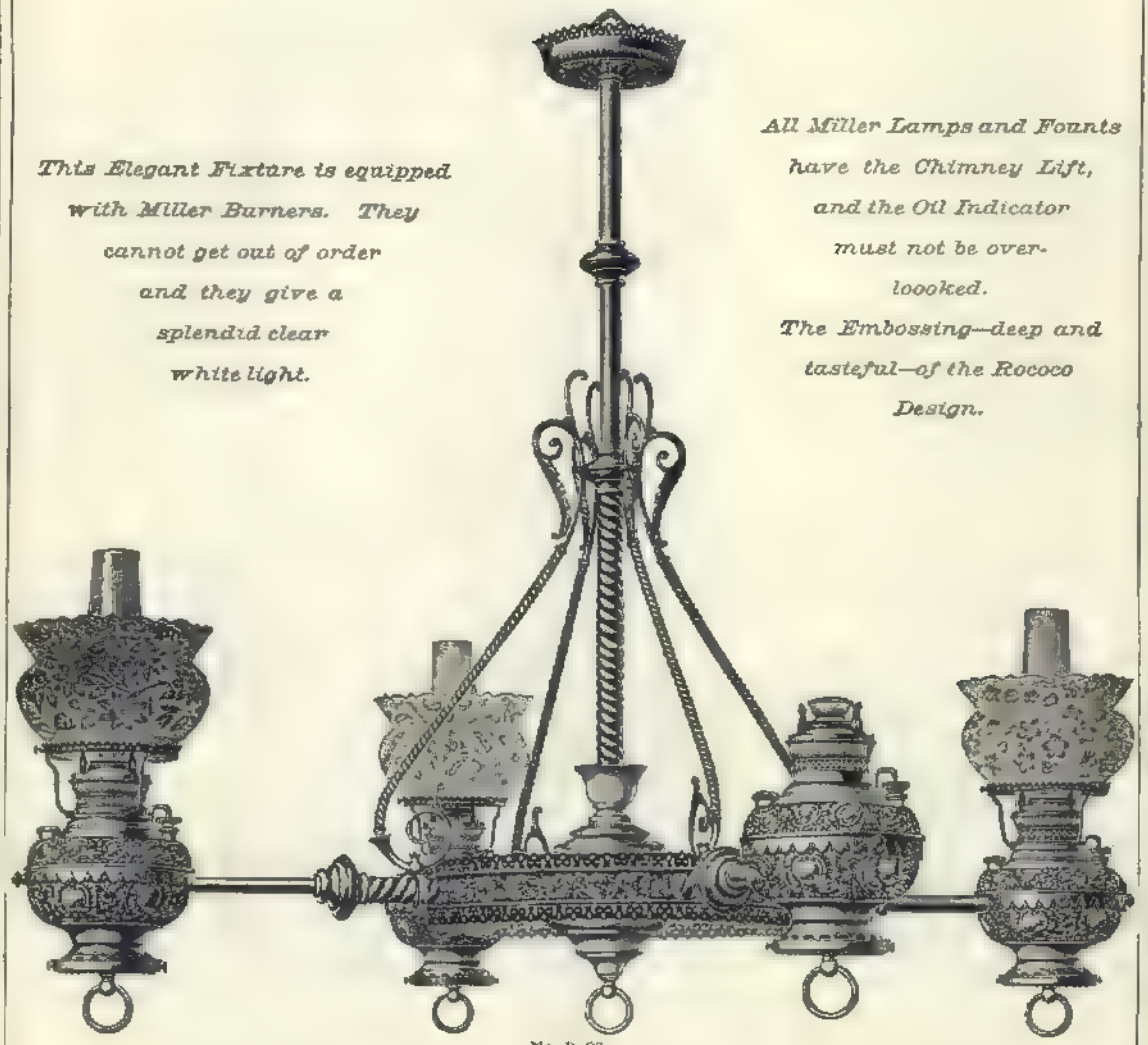
Embossed Metal Vases. Length, closed, 41 inches; spread, 32 inches.

Chandeliers.

This Elegant Fixtare is equipped with Miller Burners. They cannot get out of order and they give a splendid clear white light.

All Miller Lamps and Founts have the Chimney Lift, and the Oil Indicator must not be overloooked.

The Embossing—deep and tasteful—of the Rococo Design.



No D 08

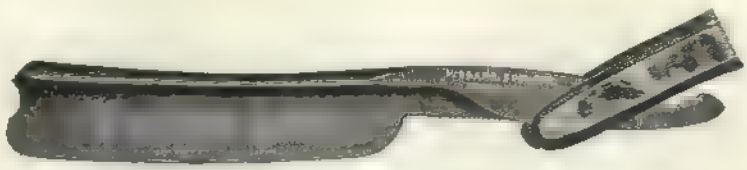
NO	NUMBER OF ARMS	DESCRIPTION	EACH.
D 106	4	Complete with Four No. 2 Miller Embossed Founts, Lift Burners, Chimneys and 5 inch Etched Crown Globes,	$38 90
D1016	6	Same, complete with Six No. 2 Miller Embossed Founts, with Lift Burners, Chimneys and 5 inch Etched Crown Globes,	50 00

Polished Brass Finish. Length, 42 inches, Spread, 48 inches. May be filled without taking off Burner, Chimney or Globe. The No. 2 Miller Burner takes No. 2 Rochester Chimney and Wick.

FOR OTHER GLOBES SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

Hibbard, Spencer, Bartlett & Co.'s Warranted Razors.

NO.	DESCRIPTION.	PER DOZEN
15	Medium Hollow Ground, ⅞ inch Blade,	$13 35



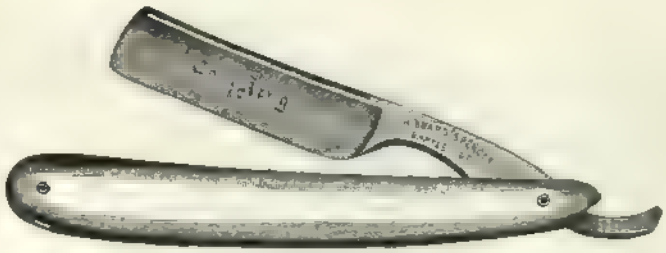
NO.	DESCRIPTION	PER DOZEN
305	Heavy Back, Imitation Shell Handle, ⅞ inch Concave Blade,	$ 8 [illegible]

NO.	DESCRIPTION.	PER DOZEN
34	Hollow Ground, ½ inch Blade,	$16 25
35	Hollow Ground, ⅝ inch Blade,	16 75
36	Hollow Ground, ¾ inch Blade,	18 00

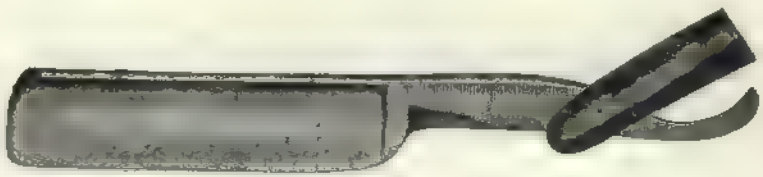
NO.	DESCRIPTION.	PER DOZEN.
335	Extra Hollow Ground, ⅞ inch Blade,	$24 00

HALF DOZEN IN A BOX.

Hibbard, Spencer, Bartlett & Co.'s Warranted Razors.

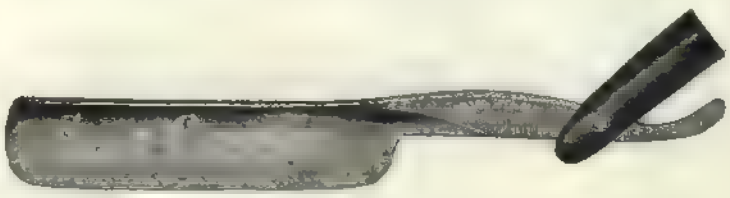


NO.	DESCRIPTION.	PER DOZEN
425	Hollow Ground Corn Razor, ⅞ inch Blade, White Handle,	$17 50



NO.	DESCRIPTION.	PER DOZEN.
515	Full Hollow Ground ⅞ inch Blade	$17 50

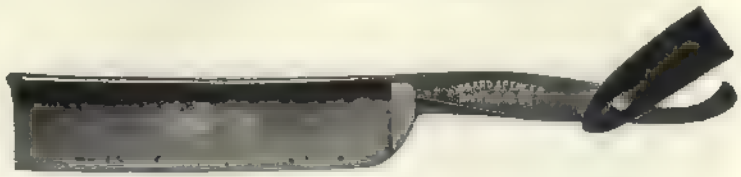
NO.	DESCRIPTION	PER DOZEN.
485	Full Hollow Ground Gentlemen's Razor, ⅞ inch Blade, White Handle,	$22 50



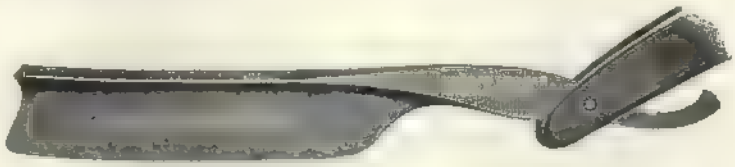
NO.	DESCRIPTION.	PER DOZEN.
506	Full Hollow Ground, ⅞ inch Blade,	$22 50

HALF DOZEN IN A BOX.

Hibbard, Spencer, Bartlett & Co.'s Warranted Razors.



NO.	DESCRIPTION	PER DOZEN.
435	Hollow Ground, $\frac{5}{8}$ inch Blade,	$15 00



NO.	DESCRIPTION.	PER DOZEN.
375	Hollow Ground, $\frac{5}{8}$ inch Blade, Crocus Polished,	$18 35

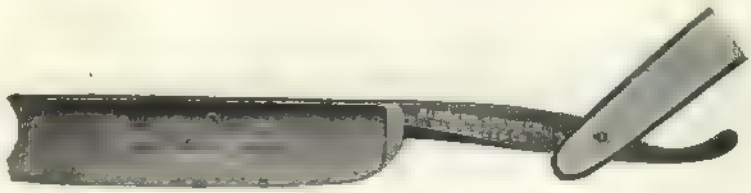
NO.	DESCRIPTION	PER DOZEN.
364	Extra Hollow Ground $\frac{1}{2}$ inch Blade	$19 20
365	Extra Hollow Ground $\frac{5}{8}$ inch Blade,	20 00
366	Extra Hollow Ground $\frac{3}{4}$ inch Blade	20 86

NO.	DESCRIPTION.	PER DOZEN.
84	Hamburg Ground, Etched in Gold, $\frac{1}{2}$ inch Blade,	$23 35
85	Hamburg Ground, Etched in Gold, $\frac{5}{8}$ inch Blade,	25 00
86	Hamburg Ground, Etched in Gold, $\frac{3}{4}$ inch Blade,	26 70

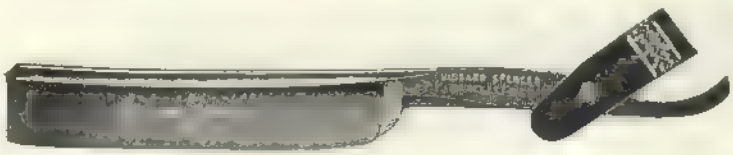
Hibbard, Spencer, Bartlett & Co.'s

Warranted Razors.

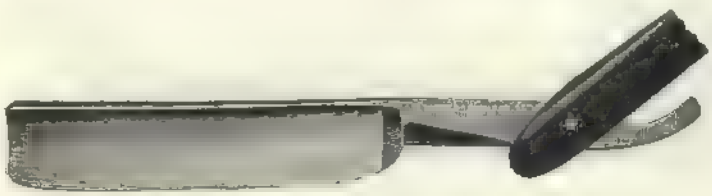
No.	DESCRIPTION	PER DOZEN
463	Full Hollow Ground, ⅞ inch Blade,	$2 50



NO.	DESCRIPTION	PER DOZEN
28	Full Hollow Ground, ⅞ inch Blade, White Handle,	$3 00
28	Full Hollow Ground ¾ inch Blade, White Handle	3 50



NO.	DESCRIPTION	PER DOZEN
475	Hollow Ground, ⅞ inch Blade, Fancy Handle	$2 50



NO.	DESCRIPTION.	PER DOZEN.
394	Barbers' Extra Hollow Ground, ¾ inch Blade,	$1 70
395	Barbers' Extra Hollow Ground, ⅞ inch Blade,	2 50

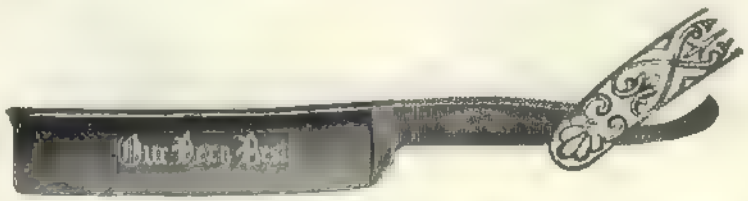
HALF DOZEN IN A BOX.

Hibbard, Spencer, Bartlett & Co.'s "Our Very Best" Razors, Warranted.

NO.	DESCRIPTION.	PER DOZEN.
524	German Hollow Ground, Etched in Gold, "Our Very Best," ⅞ inch Blade,	$24 20
525	German Hollow Ground, Etched in Gold, "Our Very Best," ⅞ inch Blade,	25 00

NO.	DESCRIPTION.	PER DOZEN.
383	Hamburg Ground, Crocus Polished, Etched in Gold, "Our Very Best," ⅞ inch Blade,	$26 70
384	Hamburg Ground, Crocus Polished, Etched in Gold, "Our Very Best," ⅞ inch Blade,	28 35
385	Hamburg Ground, Crocus Polished, Etched in Gold, "Our Very Best," ⅞ inch Blade,	30 00
386	Hamburg Ground Crocus Polished, Etched in Gold, "Our Very Best," ⅞ inch Blade,	31 70

NO.	DESCRIPTION.	PER DOZEN.
415	Extra Hollow Hamburg Ground, Etched Our Very Best," ⅞ inch Blade	$30 00



NO.	DESCRIPTION.	PER DOZEN.
425	Extra Hollow Hamburg Ground, Etched Our Very Best ' ⅞ inch Blade	$30 00

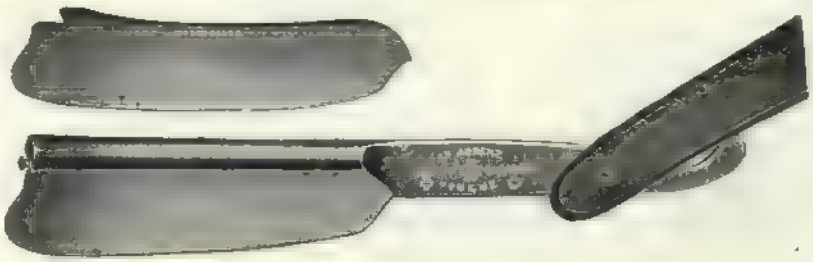
HALF DOZEN IN A BOX.

Hibbard, Spencer, Bartlett & Co.'s Warranted Razors.

NO.	DESCRIPTION	PER DOZEN
455	Full Hollow Ground, ⅞ inch Blade.	$26 75

NO.	DESCRIPTION.	PER DOZEN
55	Ivory Handle, Hamburg Ground, Etched in Gold, ⅞ inch Blade,	$35 00
56	Ivory Handle, Hamburg Ground, Etched in Gold, ¾ inch Blade,	37 50

NO.	DESCRIPTION.	PER DOZEN
405	Full Hollow Ground, ⅞ inch, Crocus Polished Blade, with Pearl Handle.	$30 00



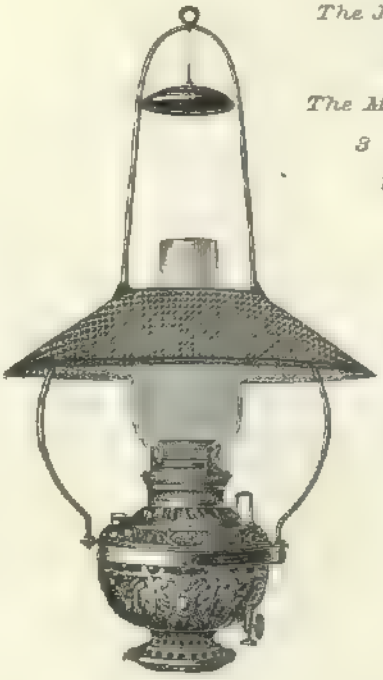
NO.	DESCRIPTION	PER DOZEN
150	Swiss, Frame Back Razor, with Two ⅞ inch Blades,	$30 00

Juno Mammoth and Miller Mill Lamps.

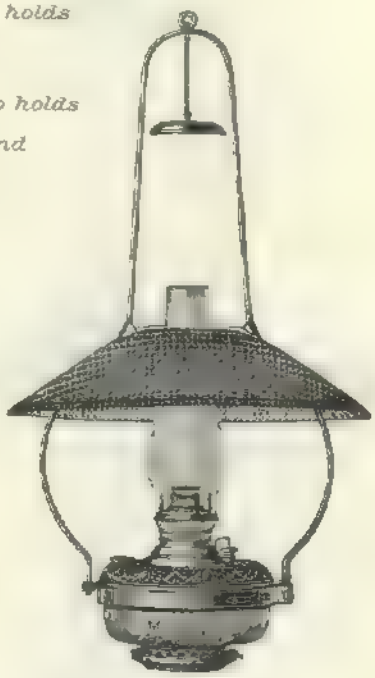
Founts can be put in and removed from below.

The Juno Mammoth holds
1 Gallon of Oil

The Miller Mill Lamp holds
3 Quarts of Oil and
burns all night.



No. D1180

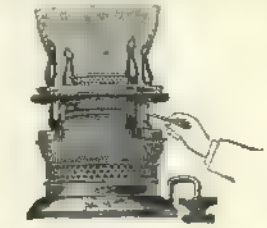


No. D0174
Large Fount. No. 2 Burner.

NO	DESCRIPTION	EACH
D1114	Brass Mammoth Juno Lamp, with Chimney and 14 inch White Dome Shade	$7 10
D1114	Nickel Mammoth Juno Lamp, with Chimney and 14 inch White Dome Shade,	5 55
D1115	Brass Mammoth Juno Lamp, with Chimney and 15 inch Corrugated Tin Shade,	4 60
D01115	Nickel Mammoth Juno Lamp, with Chimney and 15 inch Corrugated Tin Shade,	5 10
D1120	Brass Mammoth Juno Lamp, with Chimney and 20 inch Corrugated Tin Shade,	4 80
D01120	Nickel Mammoth Juno Lamp, with Chimney and 20 inch Corrugated Tin Shade	5 25
D1125	Brass Mammoth Juno Lamp, with Chimney, without Shade	4 25
D01125	Nickel Mammoth Juno Lamp, with Chimney, without Shade	4 70
D0174	Miller Mill Lamp, No. 2 Burner and Chimney and 20 inch Tin Shade; Length, with Fount [illegible], Brass Finish, holds 3 qts. of Oil. Burns 12 Hours.	3 10

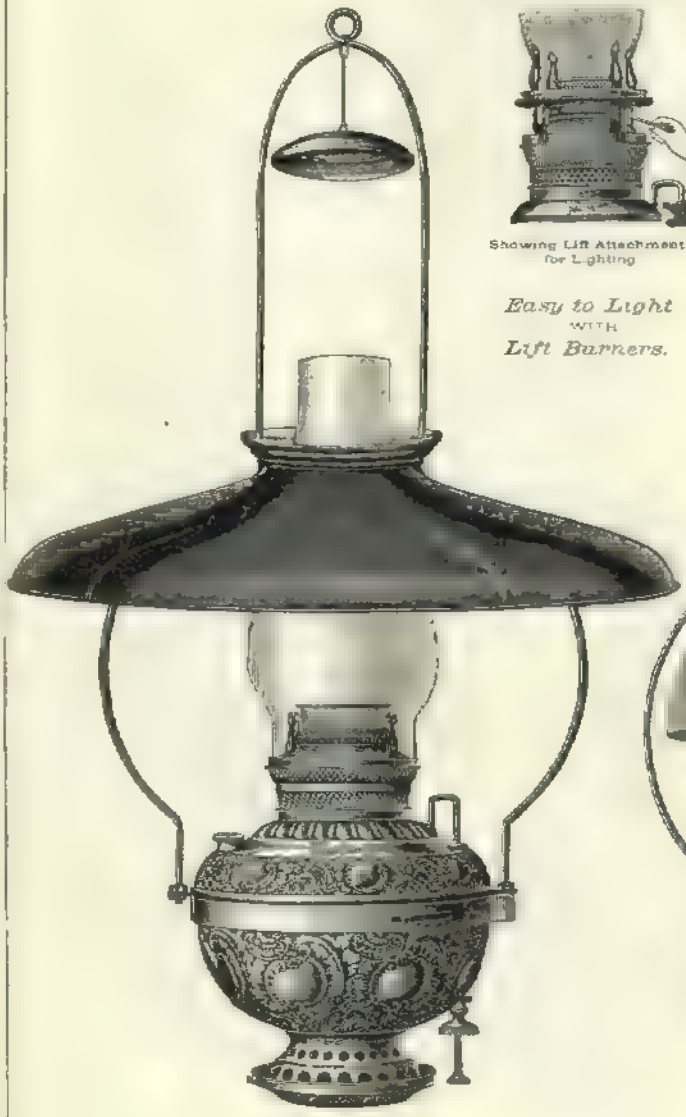
The New "Miller" Mammoth Lamps.

With Improved Chimney Lifter.

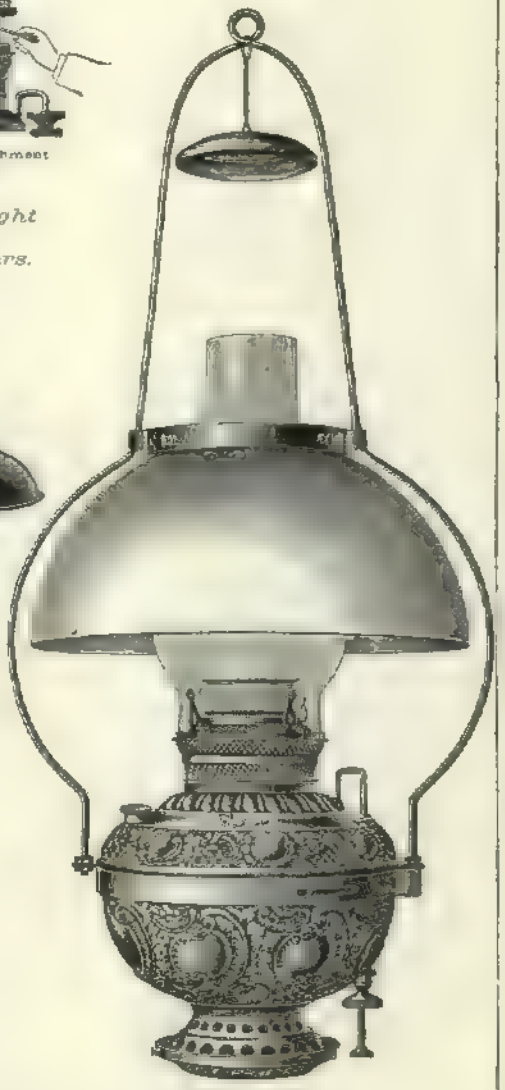


Showing Lift Attachment for Lighting

Easy to Light
WITH
Lift Burners.



Nos. 690 and 6990



Nos. 914 and 6914

Have the Best and Simplest Device for Rewicking ever invented

FOR DESCRIPTION AND PRICES SEE OPPOSITE PAGE.

Miller Mammoth Lamps.

(SEE ILLUSTRATIONS ON OPPOSITE PAGE.)

Positively the finest Lamp ever offered.

Contains every known improvement, besides many features peculiar to itself.

Gives a large, steady, brilliant light unequalled by any Lamp made; perfect combustion; no odor or smoke.

Wicking device is perfect. Wick can be removed and replaced in an instant without soiling the fingers.

Improved Wick Adjustment, permitting the wick to be raised and lowered by plunge or ratchet screw movement.

Largest oil capacity: one gallon.

Fount can be removed from the bottom of Harp with ease.

New Embossing, Rococo Decorations

Materials and workmanship the finest.

New chimney lifting device. Can be lighted without removing chimney
Completed with New Improved Heavy Shade, not the cheap, stamped tin shade usually furnished
300 Candle Power. Burns 12 hours. Capacity one gallon.

NO.	DESCRIPTION.	EACH
914	Brass Mammoth Miller Lamp, with Chimney and 14 inch White Dome Shade, -	$5 55
0914	Nickel Mammoth Miller Lamp, with Chimney and 14 inch White Dome Shade, -	6 00
920	Brass Mammoth Miller Lamp, with Chimney and 20 inch New Enameled Shade,	5 10
0920	Nickel Mammoth Miller Lamp, with Chimney and 20 inch New Enameled Shade,	5 55
926	Brass Mammoth Miller Lamp, with Chimney and 26 inch New Enameled Shade,	6 50
0926	Nickel Mammoth Miller Lamp, with Chimney and 26 inch New Enameled Shade,	6 95
928	Brass Mammoth Miller Lamp, with Chimney, without Shade, - - - - -	4 70
0928	Nickel Mammoth Miller Lamp, with Chimney, without Shade, - - - - -	5 20

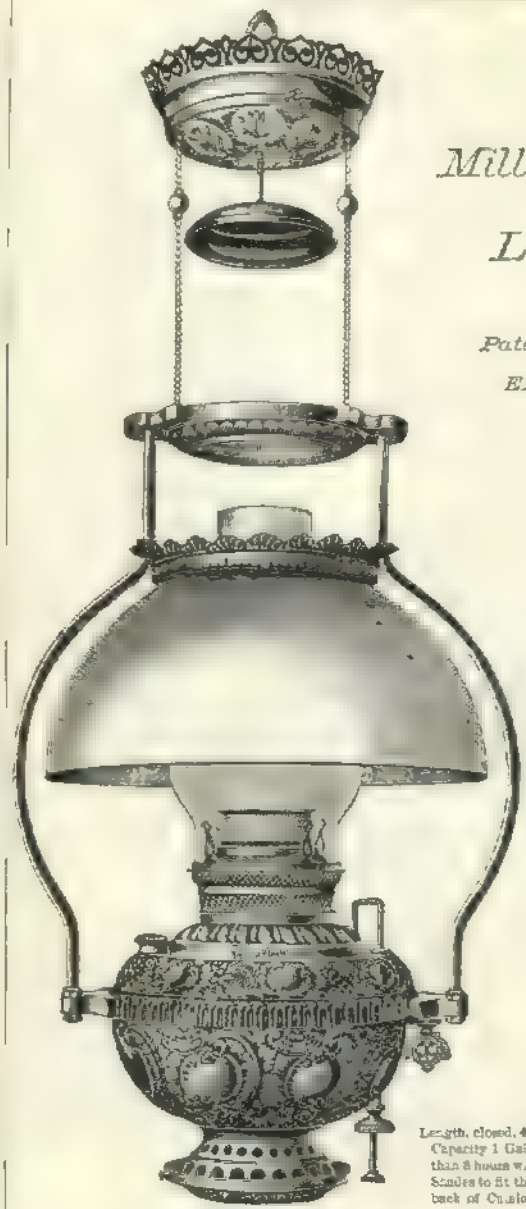
THIS IS VERY IMPORTANT

The Lamps are so constructed that if any part should get broken, that part can be replaced at small cost, thus making as good as new. It will not be necessary to send many miles, when [illegible] - brittania

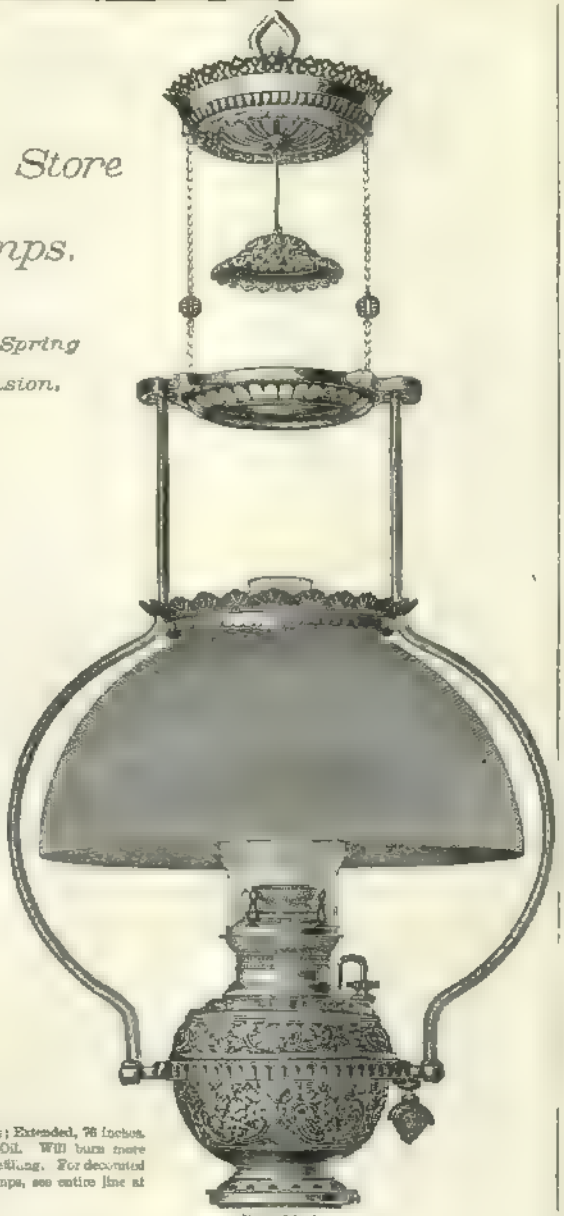
TABLE No. 3 ROCHESTER CHIMNEY AND WICK.

Miller Store Lamps.

Patent Spring Extension.



No. D1814.



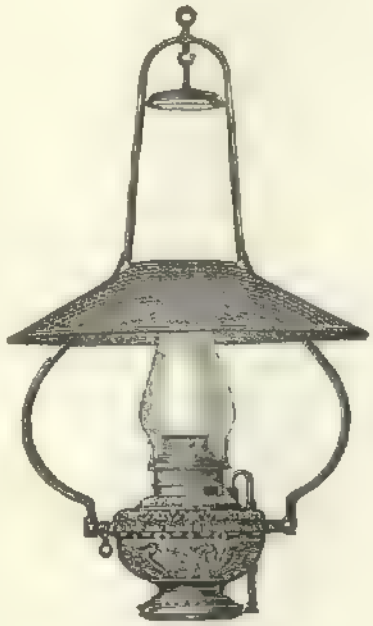
No. D2214.

Length, closed, 40 inches; Extended, 76 inches. Capacity 1 Gallon of Oil. Will burn more than 8 hours without refilling. For decorated Shades to fit these Lamps, see entire line at back of Catalogue.

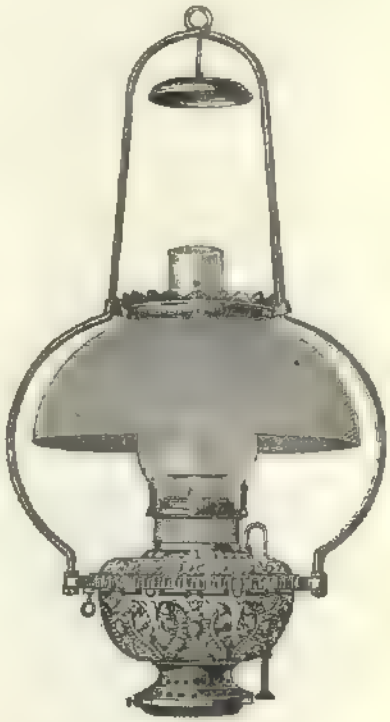
NO	DESCRIPTION	EACH
D1814	Miller Brass Embossed Mammoth Lamp, complete with Chimney, Harp and 14 inch White Dome Shade, with Patent Safety Ring to remove Fount from below.	$7 85
D01814	Same as above but Nickel Plated.	8 85
D2214	Miller Brass Embossed Lamp complete with No. 2 Burner, Chimney and 14 inch White Dome Shade, with Patent Safety Ring to remove Fount from below.	6 85
D02214	Same as above, but Nickel Plated.	7 10

No. D1814 Lamp takes No. 3 Rochester Chimney and Wick. No. D2214 takes No. 2 Rochester Chimney and Wick

Mammoth Rochester Lamps.



Nos. 815 and 820.
0815 and 0820.



Nos. 814 and 0814.

Embossed Founts. 800 Candle Power

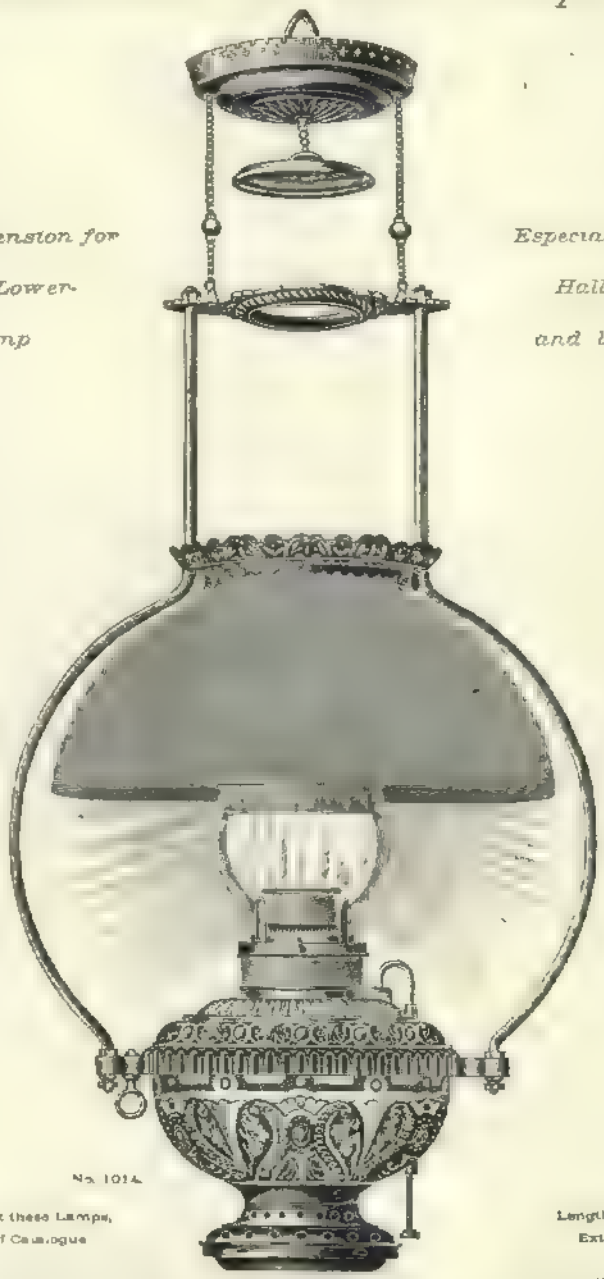
NO.	DESCRIPTION.	EACH
814	Brass Mammoth Rochester Lamp, with Chimney and 14 inch White Dome Shade,	$6 00
0814	Nickel Mammoth Rochester Lamp, with Chimney and 14 inch White Dome Shade,	6 50
820	Brass Mammoth Rochester Lamp, with Chimney and 20 inch Tin Shade,	5 55
0820	Nickel Mammoth Rochester Lamp, with Chimney and 20 inch Tin Shade,	6 00
826	Brass Mammoth Rochester Lamp, with Chimney and 26 inch Enameled Shade with White Lining,	6 95
0826	Nickel Mammoth Rochester Lamp, with Chimney and 26 inch Enameled Shade with White Lining,	7 40
828	Brass Mammoth Rochester Lamp, with Chimney, without Shade,	5 00
0828	Nickel Mammoth Rochester Lamp, with Chimney, without Shade,	5 45

All with Patent Bottom Wick Raiser. Burn 8 hours. Take No. 3 Rochester Chimney and Wick. Capacity one gallon. With No. 9139 Harp and Safety Ring. The Fount can be easily attached to this ring from below and securely fastened by turning the key so it will stand as shown in this illustration.

Mammoth Rochester Lamps.

With Spring Extension for Raising and Lowering the Lamp

Especially Adapted for Halls, Churches and large Rooms.



No. 1014.

For Decorated Shades to fit these Lamps, see entire line at back of Catalogue

Length, Closed, 38 Inches. Extended 66 Inches

NO.	DESCRIPTION	EACH
1014	Polished Brass Mammoth Rochester Lamp, Complete, with Chimney, 14 inch White Dome Shade and Patent Bottom Wick Raiser; takes No. 3 Rochester Chimney and Wick,	$8 35
01014	Same as above, but Nickel Plated,	8 80

Pocket Knives.

No. 0138.

NO.	DESCRIPTION	PER DOZEN
0138	Two Blades, Imitation Shell Handle, Brass Lined, 2⅜ inches	$2 50
13[illegible]2	Two Blades, White Bone Handle, Brass Lined, 2⅜ inches,	2 [illegible]

No. 1882.

NO.	DESCRIPTION	PER DOZEN
1862	Two Blades, Ivory Handle, Brass Lined, 2⅜ inches,	$3 10
1572	Two Blades, Shell Handle, Brass Lined, 2⅜ inches,	3 35
1882	Two Blades, Pearl Handle, Brass Lined 2⅜ inches,	[illegible] 35

No. 092

NO.	DESCRIPTION	PER DOZEN
092	Two Blades, German Silver Bound, Inlaid with Ivory, Celluloid, 2⅜ inches,	$2 50
094	Two Blades, German Silver Bound, Inlaid with Pearl Celluloid, 2⅜ inches,	2 70

No. 1712

NO.	DESCRIPTION.	PER DOZEN
17[illegible]2	Two Blades, Buffalo Handle, Brass Lined, 2¼ inches,	$3 [illegible]
1[illegible]2	Two Blades, White Bone Handle, Brass Lined, 2¼ inches,	[illegible] 80

NO.	DESCRIPTION	PER DOZEN
[illegible]	Two Blades, Fancy Pearl Handle, Brass Lined, Crocus Polished, 2¼ inches	$4 50

No. 1722

NO.	DESCRIPTION.	PER DOZEN
[illegible]722	Two Blades, Shell Handle, Brass Lined, Crocus Polished, 2¼ inches	$3 [illegible]
17[illegible]2	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2¼ inches	[illegible] 50

NO.	DESCRIPTION	PER DOZEN
1502	Two Blades, Pearl Handle, Brass Lined, Crocus Polished [illegible] inches	$[illegible] 80

HALF DOZEN IN A BOX.

Pocket Knives.

No. 8000.

NO.	DESCRIPTION	PER DOZEN
8000	Two Blades, Stag Handle, Brass Lined, Patent Nail Blade, 2½ inches,	$6 70
8001	Two Blades, White Handle, Brass Lined, Patent Nail Blade, 2½ inches,	6 70
8002	Two Blades, Pearl Handle, Brass Lined, Patent Nail Blade, 2½ inches,	7 50

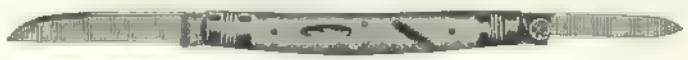
NO.	DESCRIPTION.	PER DOZEN.
0250	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	$5 00

No. 0248.

NO.	DESCRIPTION.	PER DOZEN.
0248	Two Blades, Imitation Shell Handle, Brass Lined, Crocus Polished, 2½ inches,	$2 50
0180	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	3 25

No. 0409.

NO.	DESCRIPTION	PER DOZEN.
0408	Two Blades, Imitation Shell Handle, Brass Lined, Crocus Polished, 2½ inches,	$4 10
0409	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	4 10



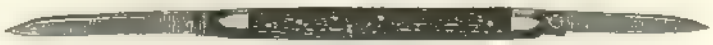
NO.	DESCRIPTION	PER DOZEN
0306	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	$5 00

NO.	DESCRIPTION	PER DOZEN
0309	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	$5 90

NO.	DESCRIPTION	PER DOZEN
0308	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches,	$5 40

HALF DOZEN IN A BOX.

Pocket Knives.



No. 0410

NO.	DESCRIPTION	PER DOZEN.
0410	Two Blades, Stag Handle, German Silver Lined, Crocus Polished, 2½ inches, -	$5 00
11	Two Blades, Ivory Handle, German Silver Lined, Crocus Polished, [illegible] inches, -	[illegible]
0412	Two Blades, Pearl Handle, German Silver Lined, Crocus Polished, 2½ inches, -	5 85

NO.	DESCRIPTION	PER DOZEN
12	Two Blades, Fancy Pearl Handle, Brass Lined, Crocus Polished, 2½ inches, -	$5 45

NO.	DESCRIPTION.	PER DOZEN.
2422	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 3 inches, - -	$6 70

NO.	DESCRIPTION.	PER DOZEN
2238	Two Blades, Fancy Pearl Handle, Brass Lined, Crocus Polished, 2¾ inches, -	$6 70

NO.	DESCRIPTION	PER DOZEN
2372	Two Blades, Fancy Pearl Handle, Brass Lined, Crocus Polished, [illegible] inches,	$6 25

NO.	DESCRIPTION	PER DOZEN
2383	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 2½ inches	$10 85

HALF DOZEN IN A BOX.

Pocket Knives.

No. 0413.

NO.	DESCRIPTION	DOZEN.
0407	Two Blades, Fancy Pearl Handle, Crocus Polished, 2½ inches,	$5 40
0413	Three Blades, Fancy Pearl Handle, Crocus Polished, 2¾ inches,	7 50

No. 8016.

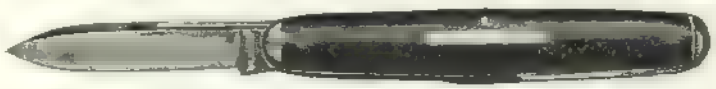
NO.	DESCRIPTION.	PER DOZEN
8015	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3 inches, Patent Nail File,	$5 95
8016	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File,	5 95
8017	Two Blades, White Handle, Brass Lined Crocus Polished, 3 in., Patent Nail File,	5 95

No. 8087.

NO.	DESCRIPTION	PER DOZEN
8086	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ in., Patent Nail File	$7 50
8087	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File,	7 50
8088	Three Blades, Stag Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File	8 75
8089	Three Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File	8 75
8090	Three Blades, White Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File	8 75

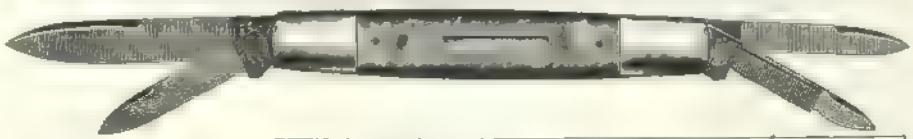
No. 8008.

NO.	DESCRIPTION	PER DOZEN.
8006	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File,	$ 7 95
8007	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3 in. Patent Nail File,	7 95
8008	Two Blades, White Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File,	8 75
8080	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File	12 50



No. 8063.

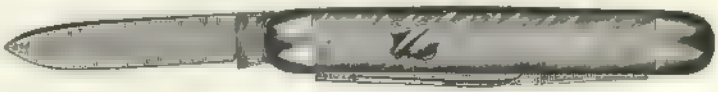
NO.	DESCRIPTION.	PER DOZEN
8064	Four Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ in., Patent Nail File,	$ 9 60
8065	Four Blades, White Handle, Brass Lined, Crocus Polished, 3½ in., Patent Nail File,	9 60
8066	Four Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ in., Patent Nail File,	9 60
8062	Four Blades, Pearl Handle, Brass Lined, Crocus Polished, 3 in., Patent Nail File,	12 50



NO.	DESCRIPTION.	PER DOZEN
8[illegible]	Four Blades, Pearl Handle, Brass Lined, Crocus Polished, 3½ inches,	$8 50

HALF DOZEN IN A BOX.

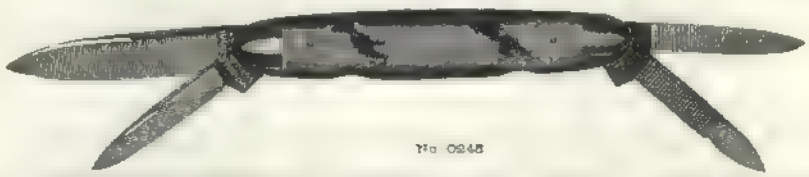
Pocket Knives.



NO	DESCRIPTION	PER DOZEN
0316	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3⅜ inches,	$14 00

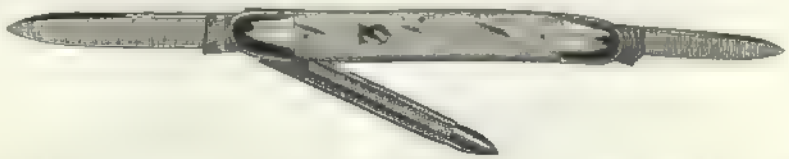
No. 8038

NO	DESCRIPTION	PER DOZEN
8034	Three Blades, Buffalo Hdl. Brass Lined, Crocus Polished, Pat. Nail File, 3⅜ inch,	$ 8 35
8035	Three Blades, White Hdl., Brass Lined, Crocus Polished Pat Nail File, 3⅜ inch,	8 35
8038	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, Pat Nail File, 3⅜ inch,	10 85



No. 0245

NO	DESCRIPTION	PER DOZEN
0245	Four Blades, Pearl Handle, Brass Lined, Crocus Polished, 3¼ inches,	$11 70
0246	Four Blades, Pearl Handle, Brass Lined, Crocus Polished, 3⅜ inches,	13 35



NO	DESCRIPTION	PER DOZEN
8063	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, Pat. Nail Blade, 3 in.,	$14 00

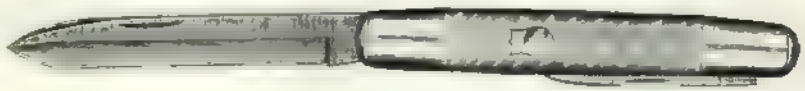
No. 8039.

NO	DESCRIPTION.	PER DOZEN
8037	Four Blades, White Handle, German Silver Lined, Crocus Polished, Pat. Nail File, 3⅜ inches,	$10 00
8038	Four Blades, Stag Handle, German Silver Lined, Crocus Polished, Pat. Nail File, 3⅜ inches,	10 00
8039	Four Blades, Buffalo Handle, German Silver Lined, Crocus Polished, Pat. Nail File, 3⅜ inches,	10 00

HALF DOZEN IN A BOX.

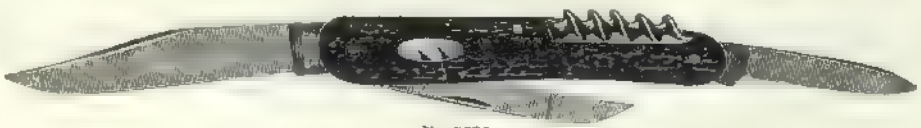
Pocket Knives.

NO.	DESCRIPTION	PER DOZEN
1905	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3½ inches,	$12 50



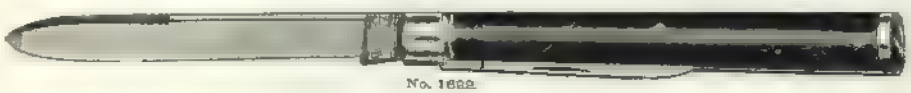
NO.	DESCRIPTION	PER DOZEN.
343	Three Blades, Round Pearl Handle, Brass Lined, Dagger Blade, 3⅜ inches	$9 00

NO.	DESCRIPTION.	PER DOZEN.
1855	Three Blades, Gray Buffalo Handle, Brass Lined, 3½ inches	$8 00



No. 8022

NO.	DESCRIPTION	PER DOZEN
8022	Four Blades, Stag Handle, Brass Lined, Crocus Polished Patent Nail Blade and Corkscrew, 3½ inches	$15 00



No. 1622

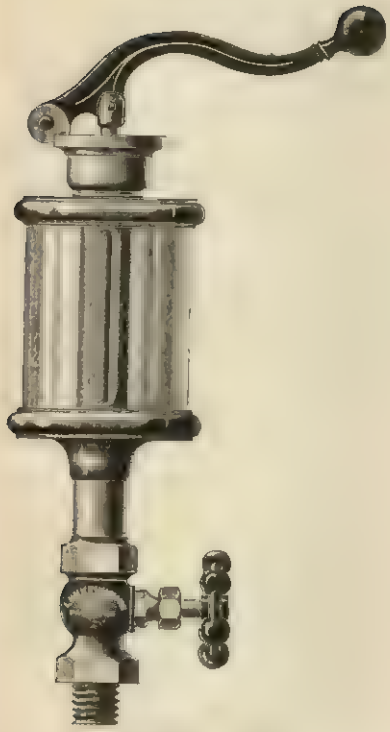
NO.	DESCRIPTION	PER DOZEN
1622	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 00
1632	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	10 00
1669	Two Blades, Pearl Handle, Brass Lined, Crocus Polished, 3½ inches,	20 00

HALF DOZEN IN A BOX.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SIGHT-FEEDS AND OIL PUMPS.

Fig. 1444.

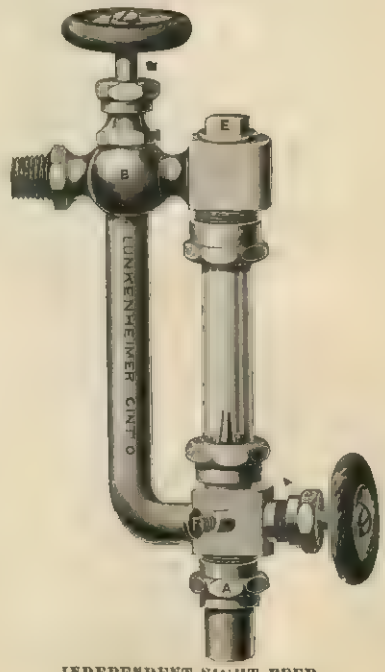


GLASS BODY OIL PUMP.

THE LUNKENHEIMER GLASS BODY OIL PUMP is easily filled and operated, and is intended to be used in connection with Sight-Feed Lubricators on Stationary Engines.

Number	1	2
Outside Diameter of Glass, inches	1¾	3
Shank, pipe thread	⅜	½
Capacity, pint	½	1
Brass, each	$7.50	10.00
Nickel-Plated, each	8.00	11.00
Extra Glasses, Net, each	.20	.60

Fig. 1445.



INDEPENDENT SIGHT-FEED.

IN large steam plants where several Engines and Steam Pumps are placed in close proximity to each other, it is sometimes desired to supply oil for all from one large oil tank, so as to do away with separate lubricators. In such cases Lunkenheimer's Independent Sight-Feed can be used. Shank threaded ⅜ inch pipe and connection A for ¼ inch pipe.

Finished Brass, each	$6.00
Nickeled-Plated, each	7.00

GLASS OIL CUPS.

Fig. 1446.

"Pioneer" Slide Top.

THE simplest and most efficient Oil Cup in the market, suitable for all engine bearings and shafting. The only Slide Top Oil Cup that will not shake apart, nor the feed unset, when placed on jaring machinery. This makes it especially adapted for traction engines. Is easily filled and regulated, and is made of few parts.

PRICE LIST.

Number, inches.	000	00	0	1	1½	2	3	4	5	6
Outside Diam. Glass, in.	1	1⅛	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	⅞	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	¼	½	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	⅛	⅛	¼	¼	¼	¾	⅜	½	½
Finished Brass each	$0 70	.75	.80	1.00	1 25	1.50	1.90	2 40	3 10	4.00
Nickel-Plated, each	80	.85	.95	1.20	1.50	1.75	2.20	2 75	3 50	4 50
Extra Glasses, Net, each	05	.06	.08	.10	.10	.12	.15	25	35	65

Fig. 1447.

"Royal" Sight-Feed.

THE "Royal" Sight-Feed Glass Oil Cup is unsurpassed for Engine and Dynamo use; it is simple and practical, and so constructed, that when the desired feed is once set it can be stopped and started at will without resetting, the spring acting as a lock and indicator when engaging at (E,. DIRECTIONS TO SET FEED)—Regulate the feed by turning the milled cover, so that when the flattened side of thumb-nut engages the spring the desired feed is obtained. When the desired feed is once established, it can be shut off or put on by turning the milled thumb-nut (E, *i. e.*, to the right, feed off; to the left, feed on.

PRICE LIST.

Number	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1⅛	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	½	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	1.10	1.25	1.50	1 75	2.10	2.55	3.15	3.90	4.80
Nickel-Plated, each	$1 20	1.40	1.70	2 00	2.35	2.85	3.50	4.30	5 30
Extra Glasses, Net, each	.06	.08	.10	.10	.12	.15	.25	.35	.65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on the cup.

Fig. 1448.

"Victor" Index.

THE "Victor" Index Glass Oil Cup is provided with a simple "index" device for regulating the feed of oil and has an indicator arm pivoted on the stem and turning on the lid to mark the notch giving the desired feed. The feed can be instantly turned off, and on again by replacing the lever in the notch of the indicator arm. When the index arm is closed the lever can be left to stand up out of the notch, thus acting as an indicator, to show from a distance that the feed is shut off.

Number	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	1 00	1 20	1.45	1 75	2 15	2 70	3 40	4.30
Nickle Plated, each	1 35	1.40	1 70	2 00	2 45	3 05	3 80	4 80
Extra Glasses, Net, each	08	10	10	12	15	25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on the cup.

Fig. 1449.

"Crown" Index Sight-Feed.

THE "Crown" Index Sight-Feed Glass Oil Cup has an "index" device for regulating the feed of oil, and an indicator arm turning on the lid to mark the notch giving the desired feed. The feed can be instantly turned off, and on again by replacing the index lever in the notch of the indicator arm. When the index arm is closed the lever can be left to stand up out of the notch, thus acting as an indicator to show from a distance that the feed is shut off. It fulfills all the requirements for Dynamo and Engine use.

Number	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	1.25	1.50	1.75	2 10	2.55	3 15	3 90	4.80
Nickel-Plated, each	1.40	1.70	2.00	2.35	2.85	3.50	4.30	5 30
Extra Glasses, Net, each	.08	.10	.10	.12	15	25	.35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on the cup.

GLASS OIL CUPS.

"YANKEE" SLIDE TOP.

Fig. 1450.

"Yankee" Slide Top.

Number	000	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1	1⅛	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	7/8	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	¼	⅜	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	⅛	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	70	.75	80	1 00	1 25	1 50	1.90	2 40	3 10	4 00
Nickel Plated, each	80	85	95	1 20	1 50	1 75	2 20	2.75	3.50	4 50
Extra Glasses, Net, each	.05	.06	.08	.10	.10	.12	.15	.25	.35	.65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on the cup.

RIVAL SIGHT FEED.

Fig. 1451.

Rival Sight Feed.

Number	00	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1⅛	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	½	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	1.10	1.25	1 50	1 75	2 10	2 55	3 15	3 90	4 80
Nickel Plated, each	1.20	1.40	1 70	2 00	2 35	2 85	3 50	4 30	4 30
Extra Glasses, Net, each	08	08	10	.10	.12	15	.25	35	65

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on the cup.

RUBY INDEX SIGHT FEED.

Fig. 1452

Ruby Index Sight Feed.

Number	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	1.25	1.50	1.75	2.10	2.55	3.15	3.90	4 80
Nickel Plated, each	1 40	1 70	2.00	2 35	2 85	3.50	4.30	5 30
Extra Glasses, Net, each	08	.10	10	12	15	25	35	65

Fig. 1453.

Ajax Index Oil Cup.

To avoid mistakes when ordering Glasses and Cork Washers, specify name and number of cup as stamped on the cup.

AJAX INDEX OIL CUP.

Number	0	1	1½	2	3	4	5	6
Outside Diameter of Glass, inches	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass, inches	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Capacity, ounces	⅝	1	1½	2½	4	5	10	18
Pipe Thread, inch	⅛	¼	¼	⅜	⅜	⅜	½	½
Finished Brass, each	1.00	1.20	1.45	1.75	2.15	2.70	3. 40	4.30
Nickel Plated, each	1 15	1.40	1.70	2.00	2.45	3.05	3. 80	4.80
Extra Glasses, Net, each	.08	.10	.10	.12	.15	.25	35	.65

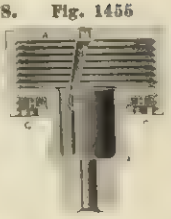
To avoid mistakes when ordering Glasses and Cork Washers, specify name and No. of cup as stamped on the cup

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUMP & SUPPLY CO. Prospect

GREASE CUPS.

Fig. 1454 LUNKENHEIMER'S. Fig. 1455

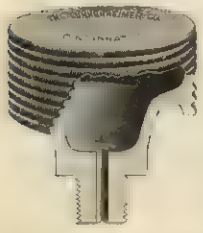


"Tiger" Plain Brass Grease Cup.

PRICE LIST.

Number		00	0	1	2	3	4
Inside Diameter	inches	1	1⅛	1½	2	2½	3
Pipe Thread	inch	⅛	¼	¼	⅜	½	½
Capacity, Grease	ounces	¼	⅜	1	2	3½	5
Finished, Brass	each	$0.70	$0.90	$1.15	$1.50	$2 15	$2 90
Finished, Nickeled	each	.82	1.06	1.36	1.80	2 60	3 40
Rough	each	56	.74	.96	1 28	1 76	2 30

Fig. 1456



"Ohio" Spun-Top Grease Cup.

LUNKENHEIMER'S "OHIO" SPUN-TOP GREASE CUP.

Full Size. No. 6.

This simple and inexpensive Grease Cup will be found equal to more expensive plain cups for various purposes. The top is of spun brass, and, although being very light in weight (so as not to jar off), is quite strong; THE BASE IS MADE OF CAST BRASS.

PRICE LIST.

Number		6	7	8	9
Outside Diameter	inches	1½	2	2⅝	2½
Pipe Thread	inch	¼	¼	⅜	⅜
Capacity, Grease	ounces	¾	1½	3½	5
Price	each	$0 55	$0 70	$0 90	$1 20

Fig. 1457

No. 1

"Miami" Plain Glass Oil Cup.
WITH SCREW PLUG

Number	Outside Diameter of Glass, Inches	Height of Glass, Inches	Capacity Ounces	Pipe Thread Inch	Finished Brass Each	Finished Nickel-plated Each	Extra Glasses, Net Each
000	1	⅞	½	⅛	$0.70	$0.80	$0 05
00	1⅛	1	¾	⅛	.75	.85	.06
0	1⅛	1⅛		¼	.80	.95	.08
1	1½	1⅜	1	¼	1.00	1 20	.10
1½	1¾	1⅝	1⅛	¼	1 25	1.50	.10
2	2	1⅞	2½	⅜	1.50	1.75	.12
3	2½	2⅛	4	⅜	1 90	2.20	.15
4	2½	2⅝	5	⅜	2 40	2 75	25
5	3	3	10	½	3 10	3 50	25
6	3½	4	18	½	4.00	4.50	.65

Cups of this style will be furnished with Loose Wire Feed, if desired.

AUTOMATIC ROD CUP.
SCREW FEED

Number	Outside Diameter of Glass, Inches	Height of Glass, Inches	Capacity Ounces	Pipe Thread Inch	Price Each	Nickel-plated Each	Extra Glasses, Net Each
0	1⅛	1⅛	½	¼	$1.10	$1 25	$0 08
1	1⅛	1⅜	1	¼	1 50	1 70	10
1½	1⅝	1⅝	1½	¼	2 00	2 25	10
2	2	1⅞	2½	⅜	2.50	2 75	12
3	2⅛	2⅛	4	⅜	3 00	3 30	15
4	2⅛	2⅝	5	⅜	4 00	4 35	25

This Cup is designed for connecting Rod Bearings and feeds only while engine is running.

Fig. 1458

No. 1

QUEEN CITY SUPPLY CO. CINCINNATI, O.

OIL AND GREASE CUPS.

Fig. 1459

Plain Locomotive Crank Pin Cup with Loose Wire Feed.

Number	1½	2
Outside Diameter, inches	1¾	2
Capacity, ounces	1½	2½
Price, each	$1.80	$2.00

Unless thread is specified shanks will be left blank.

Fig. 1461

Slide Top Locomotive Brass Guide Oil Cup.

Number	1½	2	3
Outside Diameter, inches	1¾	2	2¼
Capacity, ounces	1½	2½	4
Price, each	$2.50	3.00	4.00

Unless thread is specified shanks will be left blank.

Fig. 1460

Automatic Grease Cup.

For Engine Crank Pins, Shafting, etc.

The Lunkenheimer Automatic Grease Cup is provided with a leather packed plunger, which can be raised or lowered from the outside by means of the thumb-nut. The plunger is so constructed that it is easily raised when cup is empty, as a vacuum cannot form under it. This is an important advantage which this cup possesses over all others of similar construction.

Number	0	1	2	3	4
Inside Diameter, inches	1¼	1⅝	2	2⅝	3
Pipe Thread, inch	¼	¼	⅜	½	½
Finished Brass, each	$2.00	2.50	3.20	4.30	6.00
Nickel Plated	2.25	2.80	3.60	5.00	6.75

Fig. 1462

Slide Top Locomotive Glass Guide Oil Cup with Brass Shield.

The attention of Locomotive Builders and Master Mechanics is called to the improved filling arrangement on the oil cups herewith illustrated, by which they can be quickly and easily filled, without the annoyance usually experienced with oil cups having the screw-plug filler.

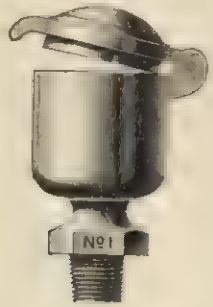
They are compactly constructed, and the slide is warranted not to leak; are provided with the pointed needle feed, and the flow of oil can be readily regulated from the outside. All glasses are extra strong, uniform in size and interchangeable.

Number	1½	2	3
Outside Diameter, inches	1¾	2	2¼
Height of Glass, inches	1⅝	1⅞	2⅛
Capacity, ounces	1½	2½	4
Price, each	$2.50	3.00	4.00
Extra Glasses, Net, each	0.10	.12	.15

Unless thread is specified shanks will be left blank.

BRASS OIL CUPS.

Fig. 1463.



Hinged Lid Small Base.

Fig. 1464.

Hinged Lid Large Base.

Number	1	2	3	4	5	6	7
Outside Diameter.....inches	7/8	1	1 1/4	1 1/2	1 3/4	1 7/8	2
Pipe Thread.....inch	1/8	1/4	1/4	3/8	3/8	3/8	1/8
Price.....each	.70	.85	1 20	1 60	2 10	2 50	2 70
With Elbow Shank.....each	.85	1 15	1 60	2 10	2 65	3 05	3 25

Fig. 1465.

PLAIN.

Fig. 1466.

LOCOMOTIVE PATTERN.

Fig. 1467.

WITH L. H. COCK.

Number	00	0	1	2	3	4	5	6	7	8	9
Outside Diameter..inches	5/8	3/4	7/8	1	1 1/8	1 1/8	1 3/4	1 7/8	2	2 1/4	2 1/2
Pipe Thread.....inch	1/8	1/8	1/8	1/4	1/4	3/8	3/8	3/8	1/8	1/8	1/8
Plain Oil Cups.....each	.25	.30	.35	.40	.60	.90	1.25	1.60	1 75	2 25	2 75
Locomotive Pattern Oil Cups.....each	.30	.35	.40	.50	.75	1.00	1.50	1.80	2.00	2 50	3 00
Add to List for Brass Tubes.....each	.10	.10	.10	.10	.15	.15	.15	.15	15	.20	.20
Oil Cups, with T. H. Cock.....each		.80	.90	1.00	1.50	2.00	2.50	2.75	3 00	3.75	4 50
Oil Cups, with L. H. Cock.....each		.90	1.00	1.10	1.80	2.20	2.75	3.00	3 25	1 00	5.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

STEEL AND BRASS OILERS.

Fig. 1476 "DRAPER'S"

Fig. 1477.

Fig. 1481.

Fig. 1478.

Fig. 1480

Fig. 1479 No. 1

No. 12

No. 14.

No. 14 A.

No. 15.

No. 14 B.

These Oilers are made of 20-Gauge Refined Steel, with Solid Cold Rolled Steel Tubes

		Per Doz.
No 12.	Steel Oilers, 2¼ in diam., 2½ in. nozzle	$4 50
No. 13.	" " 3⅜ " 8 "	5 50
No. 14.	" " 3⅝ " 9 "	6.50
No 14A.	" " 3¾ " 3 "	7.50
No 14B	" " 3¾ " 9 "	8 50
No. 15.	" " 4⅛ " 3 "	9.25
No 16.	" " 4⅛ " 9 "	10 50

Brass Oilers, Solid Cold Rolled Steel Tubes.

		Per Doz.
No. 120.	Polished Brass Oilers, 2¾ inch diam., 2½ inch nozzle	$ 6.50
No. 130.	Polished Brass Oilers, 3⅜ inch diam., 3 inch nozzle	$ 8.00
No 140	Polished Brass Oilers, 3⅝ inch diam., 9 inch nozzle	9.20
No. 120.	Nickel-Plated, 2¾ in. diam., 2½ in. nozzle	9.00
No. 130.	" " 3⅜ " 3 "	10.50
No 140	" " 3⅝ " 9 "	11 75
No 150	Brass Oilers, 4⅛ " 3	12.00
No. 160.	" " 4⅛ " 9 "	14.00
No. 150.	Nickel-Plated, 4⅛ " 3 "	15.00
No. 160.	" " 4⅛ " 9 "	17.00

No. 1. Steel Oiler, 3¾ inch diameter, 3 inch nozzle, per dozen $8.00
No. 2. " " 3¾ " 9 " " 7.00

This Oiler is made with a heavy Steel Body and Steel Bottom Solid Steel Spout bored out. No braze or solder is used on the outside, and oil can be heated in it without damaging the Oiler.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

POCHTA Pumps Prepaid

STEEL OILERS.

Fig. 1485

Fig. 1486

Fig. 1484

Fig. 1483

Fig. 1482

No. 1

No. 2

No. 3

No. 10 Railroad Oiler.

No. 111 Standard Railroad Oiler.

STEEL SIPHON OILERS.

The Siphon Oiler is now made of Sheet steel, and the body is drawn up SEAMLESS, thus avoiding all possibility of leakage.

The Siphon Vent is an entirely original idea; the vent tube is made in a coil or circle, securely fastened to the walls of the can.

The Siphon Vent does not get clogged, and when oiling, no oil will run out of the vent. Neither will any oil run out of the spout or vent should the can get tipped over. With this vent we do away with air chambers and the complicated devices usually found in all other cans now in use, which get filled up with oil and dirt, and are impossible to clean out without taking the can apart. **The absence of a good vent condemns an oil can.**

The Siphon Tubes are Extra Heavy, Bridged and Case-Hardened.

No.							Per doz.
1.	4½	in. high,	2½	in. diam.,	3⅝	in. tube	$4.00
2.	5	"	2½	"	4	"	4 50
3.	8	"	3¾	"	10	"	7 00

No 100 1 pint Steel Railroad Oiler, 3⅜ inch diameter, 6¼ inch high 9 inch nozzle Per doz , $14 00

No. 101. 1-quart Steel Railroad Oiler, 4⅛ inch diameter, 6 inch high, 10 inch nozzle. Per doz., $18.00

No. 111. 2-quart Steel Railroad Oiler, 5 inch diameter, 8 inch high, 9-inch or 14 inch nozzle. Per doz , $20.00

No. 10. 1-pint Steel Railroad Oiler, 3⅜ inch diameter, 5 inch high, 12 inch nozzle. Per doz , $11 00

No. 11. 1-quart Steel Railroad Oiler, 4⅛ inch diameter, 8 inch high, 18-inch nozzle Per Doz., $18.00

No 11 A 2-quart Steel Railroad Oiler, 5 inch diameter, 8 inch high, large nozzle, 9 inch or 14 inch. Per doz., $20 00

No. 17 1 pint Brass Railroad Oiler, 3⅜ inch diameter, 5 inch high, 12-inch nozzle. Per doz , $18 00

No. 18 1-quart Brass Railroad Oiler, 4⅛ inch diameter 6 inch high, 18-inch nozzle. Per doz., $21.00

No 18 A. 2-quart Brass Railroad Oilers, 5 inch diameter, 8 inch high, nozzle 9 inch or 14 inch Per doz , $24.00

ENGINEERS' DRIP OILERS.

With Perfection Valves.

Fig. 1487.

Detachable.

Fig. 1488.

Perfection Detachable.

ENGINEERS' DETACHABLE SPOUT OILERS.

Tin goods made of IXX Charcoal Plate. Length of Spouts, 8, 10, 12, 14, 18 and 24 inches. All Spouts 14 inch and over, are made double, giving them additional strength.

	Tin—per doz.	Brass—per doz.	Nickel—per doz.
No. 0360—1 pint	$10.00	$15.00	$18.00
No. 0380—1 quart	12.00	18.00	21 50
No. 0390—2 quarts	14.50	21.00	26.50

ENGINEERS' PERFECTION DETACHABLE SPOUT OILERS.

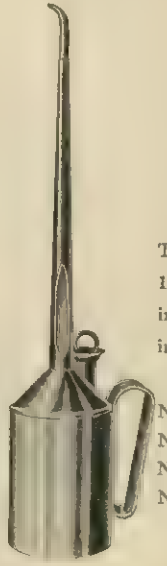
Tin goods made of IXX Charcoal Plate. Length of Spouts, 8, 10, 12, 14, 18 and 24 inches. All Spouts 14 inches and over, are made double, giving them additional strength.

	Tin—per doz.	Brass—per doz.	Nickel—per doz.
No. 036—1 pint	$15.00	$21.00	$24.00
No. 038—1 quart	18.00	24.00	27.50
No. 039—2 quarts	21.00	27.00	32.50

Fig. 1489.

Perfection Drip.

Fig. 1490.



Engineer' Drip.

ENGINEERS' PERFECTION DRIP OILERS.

Tin goods made of IXX Charcoal Plate. Length of Spouts, 6, 8, 10, 12, 14, 18, 24 inches. All Spouts, 14 inches and over, are made double, giving them additional strength.

	Tin, per doz.	Brass, per doz.	Nickel, per doz.
No. 34—½ pt.	$8.50	$12.00	$15.00
No. 36—1 pt.	10.00	15.00	18.00
No. 38—1 qt.	12.00	18.00	21.50
No. 39—2 qt.	14.50	21.00	26.50

ENGINEERS' DRIP OILERS.

Tin goods made of IXX Charcoal Tin. Length of Spouts, 6, 8, 10, 12, 14, 18 and 24 inches. All Spouts, 14 inches and over, are made double, giving them additional strength.

	Tin, per doz.	Brass, per doz.	Nickel, per doz.
No. 340—½ pt.	$4.00	$7.00	$10 00
No. 360—1 pt.	6.00	10.00	13.50
No. 380—1 qt.	7.25	12.00	15.00
No. 390—2 qt.	8.75	15.00	18.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA & CO. Pens Preps

OILERS.

Fig. 1491.

Chase's Oiler.

CHASE'S PATTERN.

Fig. 1492.

Paragon Oiler.

Zinc, with Tin Bottoms.

			Per doz.
No. 00,	Stock	No. 100	$1.00
" 0,	"	" 101	1.25
" 1,	"	" 102	1.50
" 1½,	"	" 103	1.75
" 2,	"	" 104	2.00
" 3,	"	" 105	2.25
" 4,	"	" 106	2.75
" 5,	"	" 107	3.50
" 6,	"	" 108	4.50

Zinc, with Brass Bottoms.

			Per doz
No. 00,	Stock	No. 110	$1.25
" 0,	"	" 111	1.50
" 1,	"	" 112	1.75
" 1½,	"	" 113	2.00
" 2,	"	" 114	2.50
" 3,	"	" 115	3.00
" 4,	"	" 116	3.50
" 5,	"	" 117	4.50
" 6,	"	" 118	5.50

Brass.

			Per doz
No. 0,	Stock	No. 120	$2.25
" 1,	"	" 121	2.50
" 1½,	"	" 122	3.00
" 2,	"	" 123	3.50
" 3,	"	" 124	4.00
" 4,	"	" 125	4.75
" 5,	"	" 126	6.00
" 6,	"	" 127	7.50

Copper.

			Per doz
No. 0,	Stock	No. 130	$2.50
" 1,	"	" 131	2.75
" 1½,	"	" 132	3.25
" 2,	"	" 133	3.75
" 3,	"	" 134	4.25
" 4,	"	" 135	5.00
" 5,	"	" 136	6.25
" 6,	"	" 137	8.00

PARAGON PATTERN.

Zinc, with Tin Bottoms.

			Per doz.
No 0,	Stock	No. 140	$2.00
" 1,	"	" 141	2.25
" 1½,	"	" 142	2.50
" 2,	"	" 143	3.00
" 3,	"	" 144	3.25
" 4,	"	" 145	3.75
" 5,	"	" 146	4.50
" 6,	"	" 147	5.50

Zinc, with Brass Bottoms.

			Per doz.
No 0,	Stock	No. 150	$2.25
" 1,	"	" 151	2.50
" 1½,	"	" 152	3.00
" 2,	"	" 153	3.50
" 3,	"	" 154	4.00
" 4,	"	" 155	4.50
" 5,	"	" 156	5.50
" 6,	"	" 157	6.50

Brass.

			Per doz.
No 0,	Stock	No. 160	$3.00
" 1,	"	" 161	3.50
" 1½,	"	" 162	4.00
" 2,	"	" 163	4.50
" 3,	"	" 164	5.25
" 4,	"	" 165	6.00
" 5,	"	" 166	7.00
" 6,	"	" 167	8.50

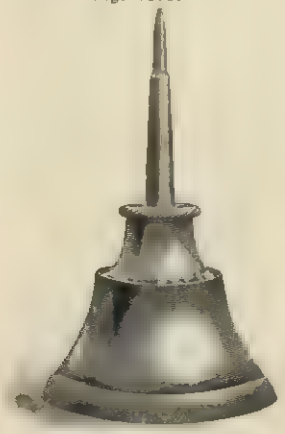
Copper.

			Per doz
No 0,	Stock	No. 170	$3.25
" 1,	"	" 171	3.75
" 1½,	"	" 172	4.25
" 2,	"	" 173	4.75
" 3,	"	" 174	5.50
" 4,	"	" 175	6.25
" 5,	"	" 176	7.25
" 6,	"	" 177	8.75

Fig. 1493.

No 1. Old Style.

Fig. 1494.



No. 11. Improved Patent.

Fig. 1495.

No. 2. Old Style.

MALLEABLE IRON.

No. 1.	Old Style	Price, per dozen,	$3.60	No. 11.	Improved Patent	Price, per dozen, $3.60
No. 2.	Old Style	" "	4.00	No. 12.	Improved Patent	" " 4.00
No. 3.	Old Style	" "	4.40	No. 13.	Improved Patent	" " 4.40

QUEEN CITY SUPPLY CO. CINCINNATI, O.

OILERS IN SETS.

Fig. 1496.

ENGINEERS' PERFECTION SETS.

No. 501—4 Pieces, Brass (counting tray)					$ 5 00
" 502—5	"	"	"	"	6 50
" 503—6	"	"	"	"	8 00
" 504—4	"	Nickel	"	"	7 00
" 505—5	"	"	"	"	9 00
" 506—6	"	"	"	"	11 00

These Engineers' Sets are handsomely finished; strictly first-class in every particular.

ENGINEERS' AND STEAMBOAT SETS.

ENGINEERS' SETS.

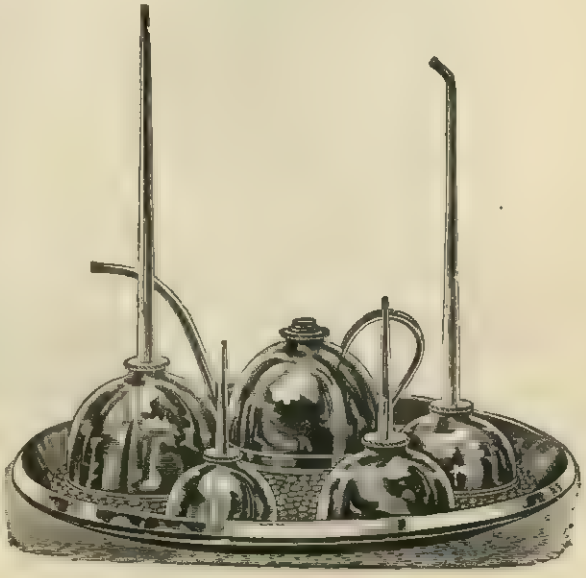
No. 30, Five Pieces	Brass	(counting Tray),			$6.00
No. 40, Six	"	"	"	"	9.00
No. 50, Five	"	Nickel,	"	"	8.00
No. 60, Six	"	"	"	"	11.00

STEAMBOAT SETS.

No. 70, Five pieces	Brass	(counting Tray),			$7.00
No. 80, Six	"	"	"	"	10.00
No. 90, Five	"	Nickel	"	"	9.00
No. 100, Six	"	"	"	"	12.00

The Trays furnished with these Sets are made from extra heavy stock, and are supplied with **SUITABLE RECEPTACLES** for holding the oilers in place during any violent motion of the boat.

Fig. 1497.



ENGINEERS' FILLERS.

STEEL AND BRASS.

Fig. 1498

No. 19	1-pint Steel Fillers, 4⅛ inch diameter, 3½ inch high, Screw Top	per dozen,	$14.00
No. 19A	1½-pint Steel Fillers, 4⅜ inch diameter, 4 inch high, Screw Top	"	17.00
No. 210	1-quart Steel Fillers, 5 inch diameter, 5 inch high, Screw Top	"	20.00
No. 211	2-quart Steel Fillers, 6 inch diameter, 6 inch high, Screw Top	"	24.00
No. 190	1½-pint Brass Fillers, 4⅜ inch diameter. 4 inch high, Screw Top	"	22.00
No. 200	1-quart Brass Fillers, 5 inch diameter, 5 inch high, Screw Top	"	30.00
No. 201	2-quart Brass Fillers, 6 inch diameter, 6 inch high, Screw Top	"	34.00

These Fillers are made of very heavy stock, and handsomely finished in both Brass and Steel.

Fig. 1499

ENGINEERS' HAND OILERS.

Tin goods made of IXX Charcoal Plate.

No.		Tin. Per doz.	Brass. Per doz.	Nickel-plated. Per doz.
250	½ Pint	$5 00	$ 9.00	$12.00
270	1 Pint	6 00	10.50	13 50
290	1 Quart	9 00	15.00	18 00
310	2 Quart	15.00	21.00	24.00

Fig. 1500

STEEL TALLOW POTS.

These Tallow Pots are made of very heavy stock, and have a very large spout, and 2-inch filling opening, with tapered metal plug attached to the handle by a chain.

These are the largest and best goods in the market.

No. 212	Quart Steel Tallow Pots, 5 inch diameter, 5 inch high	per dozen,	$21.00
No. 213	2-Quart Steel Tallow Pots, 6 inch diameter, 6 inch high	"	25.00

Bailey's Adjustable Planes.

The above Sectional View of a Plane illustrates the new method of Adjusting a Plane Iron, sidewise, to set the cutting edge exactly square with the face of the Plane. A Lever located just under the Plane Iron, enables the workman to [illegible] his cutter. This Lever for sidewise adjustment, as above shown, is attached to all Bailey Iron Planes and Bailey Wood Planes, and to Block Planes, Nos. 16, 17, 18 and 19.

Wood Planes.

No.	DESCRIPTION.	EACH.
21	Smooth, 7 [illegible] 1¾ inch Cutter,	$2 00
22	Smooth, 8 [illegible] 1¾ inch Cutter,	2 00
23	Smooth, 9 [illegible] 1¾ inch Cutter,	2 00
24	Smooth, 9 [illegible] Cutter,	2 00
25	Block, [illegible] 1¾ inch Cutter,	2 00

ONE IN A PACKAGE.

No.	DESCRIPTION.	EACH.
35	Handle Smooth, 9 in. in length, 2 in. Cutter,	$2 50
36	Handle Smooth, 10 in. in length, 2¾ in. Cutter,	2 75
37	Jenny Smooth, 18 in. in length, 2⅝ in. Cutter,	3 00

ONE IN A PACKAGE.

No.	DESCRIPTION.	EACH.
26	Jack, 14 [illegible] inch Cutter,	$2 25
27	Jack, 16 inches in length, 2¼ inch Cutter,	2 50
28	Fore, 18 inches in length, 2⅝ inch Cutter,	2 75
29	Fore, 20 inches in length [illegible] Cutter,	2 75
30	Jointer, 22 inches in length [illegible] Cutter,	3 00
31	Jointer, 24 inches in length, 2 [illegible] Cutter	3 00
32	Jointer, 26 inches in length, 2¼ inch Cutter,	3 25
33	Jointer, 28 inches in length, 2⅜ inch Cutter,	3 25
34	Jointer, 30 inches in length, 2⅝ inch Cutter,	3 50

ONE IN A PACKAGE.

Iron Planes.

No.	DESCRIPTION.	EACH.
1	Smooth, 5¼ [illegible] length, 1½ inch Cutter	$2 25
2	Smooth, 7 [illegible] length, 1¾ inch Cutter	2 75
3	Smooth, 8 [illegible] length, 1¾ inch Cutter	3 00
4	Smooth, 9 inches in length, 2 inch Cutter,	3 25
4½	Smooth, 10 inches in length, 2⅜ inch Cutter,	3 75

ONE IN A BOX.

No.	DESCRIPTION.	EACH.
5	Jack, 14 inches in length, 2 inch Cutter,	$3 75
6	Fore, 18 inches in length, 2⅜ inch Cutter,	4 75
7	Jointer, 22 inches in length, 2⅜ inch Cutter,	5 50
8	Jointer, 24 inches in length, 2⅜ inch Cutter,	6 50

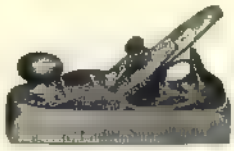
ONE IN A BOX.

No.	DESCRIPTION.	EACH.
10½	Carriage Makers' Rabbet, 9 in., 2½ in. Cutter,	$3 75
10	Carriage Makers' Rabbet, 13 in., 2⅜ in. Cutter,	4 50

ONE IN A BOX.

Stanley's Adjustable Planes.

Wood Planes

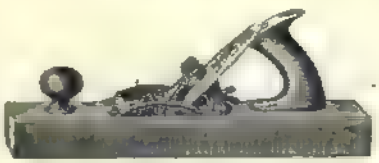


NO.	DESCRIPTION	EACH
122	Smooth, 8 inches in length, 1¾ inch Cutter.	$1 60

ONE IN A PACKAGE

NO.	DESCRIPTION	EACH
135	Handle Smooth 10 inches in length 2⅜ in. Cutter.	$2 10

ONE IN A PACKAGE



NO.	DESCRIPTION	EACH
127	Jack, 15 inches in length, 2⅜ inch Cutter	$2 [illegible]
129	Fore, 20 inches in length, 2⅜ inch Cutter	2 25
184	Jointer 26 inches in length, 2⅜ inch Cutter	2 [illegible]

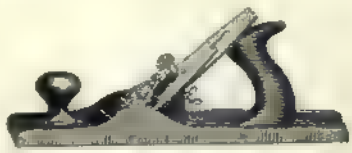
These Planes are adjusted by a Lever and are especially adapted for working on soft woods

ONE IN A PACKAGE

Wrought Steel Planes.

NO.	DESCRIPTION	EACH
104	Smooth, 9 inches in length, 2⅜ inch Cutter.	$2 75

ONE IN A BOX



NO.	DESCRIPTION	EACH
105	Jack, 14 inches in length, 2⅜ inch Cutter,	$3 50

Planes Nos 104 and 105 have a wrought steel stock, and are adjusted by a Lever They are commended for their lightness and the ease with which they can be worked

ONE IN A BOX

Improved Scrub Plane

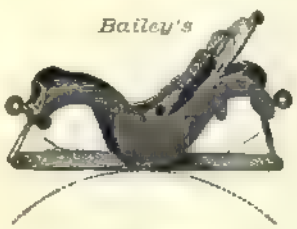
NO.	DESCRIPTION	EACH
40	Improved Scrub Iron Stock, 9¼ inches in length, 1¾ inch cutter	$. 00

This Iron has a [illegible] edge rounded and is particularly adapted for rough [illegible] Planes

ONE IN A BOX

Circular Planes.

Bailey's



NO.	DESCRIPTION	EACH
13	Adjustable Circular, 1¾ inch Cutter	$4 [illegible]

This Plane has a flexible steel face, and by means of the thumb screws at each end of the stock, can be easily adapted to plane circular work either concave or convex

ONE IN A BOX

Stanley's

NO.	DESCRIPTION.	EACH
113	Adjustable Circular, 1¾ inch Cutter.	$1 00

This Plane has a flexible steel face which can be easily shaped to any required arc either concave or convex, by turning the Knob on the front of the Plane

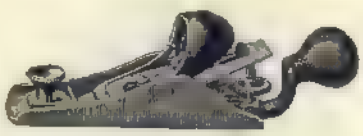
ONE IN A BOX

Patent Block Planes.

Bailey's.

NO.	DESCRIPTION	EACH
9½	Excelsior Block 6 inches, 1¾ inch Cutter,	$1 50
15	Excelsior Block, 7 inches 1¾ inch Cutter	1 60

ONE IN A BOX



NO.	DESCRIPTION	EACH
9¾	Rosewood Handle 6 inches 1¾ inch Cutter	$1 75
15½	Rosewood Handle 7 inches 1¾ inch Cutter	1 85

ONE IN A BOX

NO.	DESCRIPTION	EACH
16	Block, 6 inches 1¾ inch Cutter, Stanley's Lateral Adjustment, Nickel Plated Trimmings,	$1 55
17	Block 7 inches 1¾ inch Cutter, Stanley's Lateral Adjustment, Nickel Plated Trimmings,	1 75

ONE IN A BOX

NO.	DESCRIPTION	EACH
18	Knuckle-joint, 6 inches, 1¾ inch Cutter, Stanley's Lateral Adjustment, Nickel Trimmings,	$1 75
19	Knuckle joint, 7 inches, 1¾ inch Cutter, Stanley's Lateral Adjustment, Nickel Trimmings	1 85

The knuckle joint of the cap makes it lay over the iron and pressing the cap in position, will also clasp the cutter securely in its seat.

ONE IN A BOX.

Stanley's.

NO.	DESCRIPTION.	EACH.
101	Block, 3½ inches in length, 1 inch Cutter,	$0 20

SIX IN A BOX

NO.	DESCRIPTION.	EACH
102	Block, 5½ inches in length 1½ inch Cutter,	$0 40

ONE IN A BOX

NO.	DESCRIPTION	EACH
103	Block Adjustable 5½ inches 1¾ inch Cutter	$0 60

ONE IN A BOX

NO.	DESCRIPTION	EACH.
110	Block 7¼ inches in length, 1¾ inch Cutter,	$0 60
120	Block Adjustable 7¼ inches 1¾ inch Cutter	85

ONE IN A BOX

NO.	DESCRIPTION.	EACH
180	Block, (Double-Ender) 6 in., 1¾ inch Cutter,	$0 80

This Plane has two slots, and two cutter seats. It can be used as a Block Plane, or by reversing the position of the cutter and the clamping wedge (see dotted lines in the engraving) it can be used to plane close up into corners, or other difficult places.

ONE IN A BOX

NO.	DESCRIPTION	EACH
75	Bull Nose Rabbet Iron Stock, 4 inches in length, 1 inch Cutter,	$0 50

ONE IN A BOX

Patent Adjustable Planes.

Stanley's Bull-Nose Plow, Filletster and Matching Plane.

NO.	DESCRIPTION.	EACH.
141	Bull-nose Plow, Filletster and Matching Plane, Iron Stock and Fence,	$7 00
143	Bull-nose Plow and Matching Plane, Iron Stock and Fence.	5 00

Two interchangeable front parts go with this Tool. The form shown above is that of a Bench or Plow, and the cutter is clear up to, and close to the point. Use in any angle suitable for Sash fitting, Stair work, etc. With the other front, one takes the ordinary form of a Plow, and is adapted to all regular uses.

With each Tool eight Plow Bits, (1-8, 3-16, 1-4, 5-16, 3-8, 7-16, 1-2 and 5-8 inch,) a Filletster Cutter and a Slitting Blade, are furnished. Also a Tonguing Tool (1-4 inch).

ONE IN A BOX.

Miller's Plow, Filletster and Matching Plane.

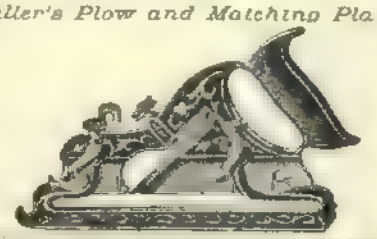
NO.	DESCRIPTION	EACH
41	Iron Stock and Fence,	$5 00
42	Gun Metal Stock and Fence	10 00

This Tool combines the common Carpenter's Plow or Adjustable Filletster and a Perfect Matching Plane. The entire assortment can be kept in a smaller space, or made more portable than an ordinary Carpenter's Plow.

With each Plow a Filletster Cutter and eight Bits (1-8, 3-16, 1-4, 5-16, 3-8, 7-16, 1-2 and 5-8 inch) are furnished. Also a Tonguing Tool (1-4 inch), and by use of the latter, together with the 1-4 inch Plow Bit for grooving, a Perfect Matching Plane is made.

ONE IN A BOX.

Miller's Plow and Matching Plane.



NO.	DESCRIPTION	EACH
43	Iron Stock and Fence,	$7 00
44	Gun Metal Stock and Fence	10 00

This Tool includes 8 bits same as No. 41, except the Filletster Cutter.

ONE IN A BOX.

Stanley's Adjustable Beading Rabbet and Slitting Plane.

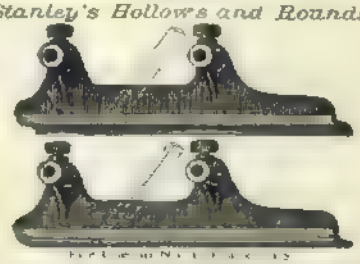
NO.	DESCRIPTION	EACH
45	Iron Stock and Fence, including Beading Tools, Bits, Slitting Tool, &c.,	$8 00
5	Nosing Tool, 1¼ inch	1 00
2	Beading Tools, 2 Beads, ¼, ⅜ or ½ inch,	20
3	Beading Tools, 3 Beads, ¼, ⅜, ½ inch,	30
4	Beading Tools, 4 Beads, ¼, ⅜, ½, ⅝ inch	40
5	Beading Tools, 5 Beads, ¼, ⅜, ½, ⅝, ¾ inch,	50

This Plane embraces Beading and Center Beading Plane, Rabbet and Filletster, Dado, Plow, Matching Plane, and a Superior Splitting Plane.

Each Plane is accompanied by seven Beading Tools (⅛, 3-16, ¼, 5-16, 3-8, 7-16, ½, ⅝ and ¾ inch), nine Plow and Dado Bits (⅛, 3-16, ¼, 5-16, 3-8, 7-16, ½, ⅝ and ¾ inch), a Slitting Bit and a Tonguing Tool.

ONE IN A BOX.

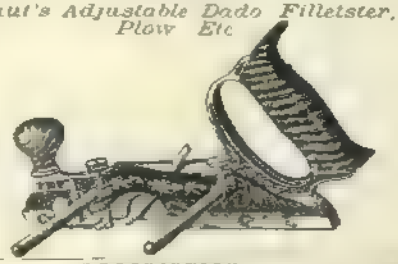
Stanley's Hollows and Rounds.



NO.	DESCRIPTION	PER PAIR.
6	Inch Cutter, works ¾ inch Circle,	$1 40
8	Inch Cutter, works 1 inch Circle,	1 40
10	Inch Cutter, works 1¼ inch Circle,	1 40
12	Inch Cutter, works 1½ inch Circle,	1 40

ONE PAIR IN A BOX.

Traut's Adjustable Dado Filletster, Plow Etc.



NO.	DESCRIPTION	EACH.
46	Adjustable Dado, Filletster, Plow, etc., including Plow and Dado Bits, Tonguing and Slitting Tools, Iron Stock and Fence,	$7 00
47	Adjustable Dado, including Bit, ⅛, ¼, ⅜, ½ and 1¼ inch, Iron Stock and Fence,	4 00

The No. 46 is accompanied by eight Plow and Dado Bits (3-16, 1-4, 5-16, 3-8, ½, 5-8, 7-8 and 1¼ inch), a Filletster Cutter, a Slitting Blade and a Tonguing Tool. All, except the Slitting Blade, are secured in the main stock on a hinge.

ONE IN A BOX.

Patent Adjustable Planes.

Stanley's Adjustable Tonguing and Grooving Plane.

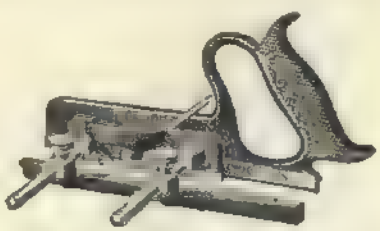
No.	DESCRIPTION.	Each
48	Iron Stock and Fence, for ⅜ to 1¼ in. boards,	$2 00
49	Iron Stock and Fence, for ⅜ to ⅞ in. boards, including Tonguing and Grooving Tools.	2 50

These planes have two separate cutters, a suitable distance apart. When the g ove, or fence, is set as shown above, both cutters work a t n tongue can be made.

The fence is hung on a pivot, and can be swung around, and for end. This movement covers one of the cutters, and also furnishes a guide for grooving an exact match for the tongue.

ONE IN A BOX.

Stanley's Adjustable Beading Plane.



No.	DESCRIPTION.	Each.
50	Iron Stock and Fence, with ⅜, ½, ⅝, ¾, ⅞ and 1 in. Cast Steel Bits,	$4 00

By adjustment of the fence, border beading can be done up to five inches from the edge of the board. Except for working across the grain, the spurs need not be used.

ONE IN A BOX.

Stanley's Duplex Rabbet and Filletster Plane.

No.	DESCRIPTION.	Each
78	Iron Stock and Fence, length 8½ in. 1½ in Cutter	$1 50

Remove the arm to which the fence is secured, and a Hundred Rabbet Plane is had, and with two seats for the cutter so that the tool can be used as a Bull-Nose Rabbet if required.

The arm to which the fence is secured can be screwed into either side of the stock, thus making a superior right or left hand Filletster with adjustable spur and depth gauge.

ONE IN A BOX.

Stanley's Improved Rabbet Plane.

No.	DESCRIPTION	Each
188	Iron S[illegible] length, 1[illegible] de,	$1 00
191	Iron S[illegible] length, 1[illegible] de,	1 00
192	Iron S[illegible] length, 1[illegible] de,	1 00
190	Iron Stock, 8 in. in length, 1⅛ in. wide, with spur,	1 15
191	Iron Stock, 8 in. in length, 1¼ in. wide, with spur,	1 15
192	Iron Stock, 8 in. in length, 1½ in. wide, with spur,	1 15

This Plane will fit perfectly flat on either side, and can be used with right or left hand equally well, while passing into corners or up against perpendicular surfaces.

ONE IN A BOX.

Stanley's Adjustable Chamfer Plane.

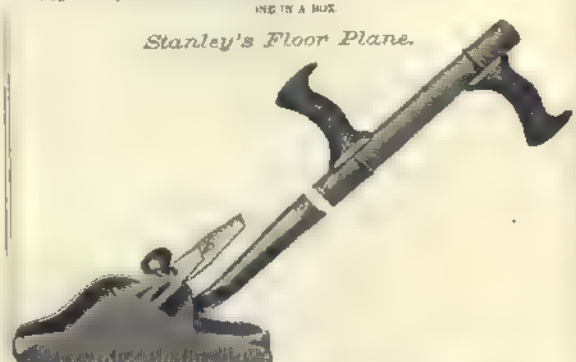
No.	DESCRIPTION.	Each.
72	Iron Stock 9 [illegible] length, 1¼ in. Cutter	$2 00
72½	Same as No. 72 with [illegible] and Moulding	
	Attachment, including 6 Cutters,	3 00

The front section of this Plane is movable up and down. It can be firmly secured to the rear section at any desired point by means of a Thumb-Screw. Without the use of any other tool, this Plane will do perfect chamfer or stop-chamfer work of all ordinary widths.

For Beading, Reeding or Moulding a chamfer, an additional section to this Plane is furnished with six cutters, sharpened at both ends, including a large variety of ornamental forms.

ONE IN A BOX.

Stanley's Floor Plane.

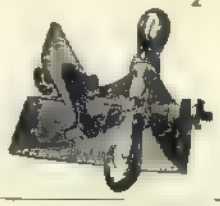


No.	DESCRIPTION	Each.
74	Floor Plane 10¼ in. in length, 2⅜ in. Cutter,	$4 50

This tool will be found useful for planing Floors, Bowling Alleys, Skating Rinks, Decks of Vessels, etc. The construction of the Plane will enable the owner to do more work, and with less outlay of strength, than can be done with any other tool. The weight of the Plane is about 10 pounds, and the full length of the handle 45 inches.

ONE IN A PACKAGE.

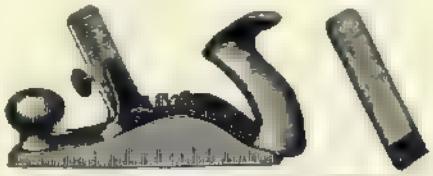
Veneer Scrapers.



NO.	DESCRIPTION	EACH
12	Bailey's Adjustable 3 inch Cutter, -	$3 50

ONE IN A BOX.

Scraper Planes.



NO	DESCRIPTION	EACH
112	Stanley's Adjustable Scraper, 9 inches in length, 2 inch Cutter, - -	$3 00
	Cutters, for Veneer Scraping,	25
	Cutters, for Toothing, Nos. 22, 26, 32 29 28 or 32 teeth per inch,) - -	35

This Tool is the most perfect construction that can be used in scraping and finishing Veneered work or Hardwoods of any form. It can be used equally well as a Toothing Plane.

ONE IN A BOX.

Router Planes.

NO.	DESCRIPTION.	EACH.
71	Stanley's Adjustable, Iron Stock, with Steel Bits, ¼ and ½ inch. - -	$1 50

This tool is perfectly adapted to smooth the bottom of grooves, panels, or all depressions below the general surface of any wood work.

ONE IN A BOX.

Cabinet Scrapers.

NO.	DESCRIPTION.	PER DOZEN.
1	Cast Steel, Polished, 2½ × 5 inch, -	$1 50
2	Cast Steel, Polished, 4 × 6 inch, - -	2 65

ONE DOZEN IN A BOX.

Chisel Gauges.

NO	DESCRIPTION	PER DOZEN.
96	Stanley's Adjustable Steel Stock, -	$2 40

Attach to a ¼ inch Chisel will serve as a gage, and a shaving of any desired thickness can be removed, for paring or for inlaying wood strips in ornamental surface work.

HALF DOZEN IN A BOX.

Chamferer Gauges.

NO	DESCRIPTION	PER DOZEN.
14	Improved Draw Knife Chamferer Gauge, Nickel Plated - -	$6 00

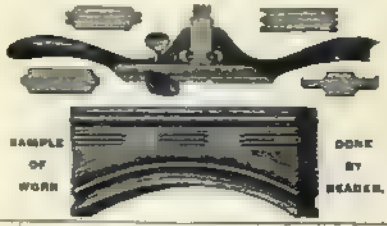
ONE IN A BOX.

Jointer Gauges.

DESCRIPTION.	PER DOZEN.
Alexander's Adjustable, for Squaring to any Bevel, can be attached to any Jack or Jointer Plane,	$18 00

ONE IN A BOX.

Hand Beaders.

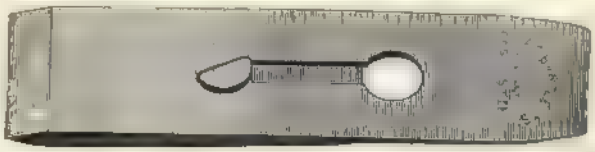


NO.	DESCRIPTION.	EACH.
66	Stanley's Universal, Iron Stock, with 7 Steel Cutters, - - - -	$1 00

For Beading, Reeding or Fluting straight or irregular surfaces and for all kinds of Inlay Routering. Both ends of Cutters are sharpened, thus embracing six ordinary sizes of Beads, four sets of Reeds, two Flutes, and a double Bosser Iron ⅛ and ¼ inch.

ONE IN A BOX.

A. C. Bartlett's Ohio Plane Irons.



Inches,	1¾	1⅞	2	2⅛	2¼	2⅜	2½	2⅝	2¾
Cut, per Doz	$3 75	1 88	4 00	2 13	2 38	4 63	2 88	3 13	3 50
Double, per Doz.	4 00	4 00	4 13	4 25	4 50	4 75	5 25	5 50	6 50

SINGLE, ONE DOZEN IN A BOX. DOUBLE, HALF DOZEN IN A BOX.

Bailey's Plane Irons.

Inches,	1¾	1⅞	2	2⅛	2⅝	2⅞
Cut, Each,	25	28	30	33	37	40
Double, Each,			55	60	65	70

HALF DOZEN IN A BOX.

Block Plane Irons and Caps.

NO.	DESCRIPTION.	EACH
STATE NUMBER OF PLANE IN ORDERING.	1⅝ inch Irons, for Bailey's Block Planes, Nos. 9½, 9⅝, 15, 15½, 16, 17, 18, and 19,	$0 20
	1⅝ inch Irons for Stanley's Block Planes Nos. 110, 120, and 130,	17
	Extra Caps and Screws for Stanley's Block Planes Nos. 110, 120, and 130,	25
	Extra Caps and Levers for Bailey's Block Planes Nos. 9½, 9⅝, 15 and 15½,	25

Panel Plow Bits.

NO.	DESCRIPTION.	PER SET.
8	Sets of Eight $\frac{1}{4}$ to ¾ inch, for Wood Plows,	$1 50
45	Bits Complete for No. 45 Stanley's Plane, Including 7 Bits, 9 Plow and Dado Bits, Slitting Blade and Tonguing Tool,	3 50

ONE SET IN A BOX.

Mitre Boxes

Ormsted's Improved.

Nos. 1 and 2. Nos. 3 and 4.

Hardwood, Oiled, Iron Guides.

No.	1	2	3	4
For Wood	1¼ × 3	2½ × 3	1¾ × 3	2½ × 3
Each	$1 00	1 50	1 25	1 75

The Guides can be adjusted to any thickness of saw, the frame cannot be cut away

Stanley's Improved.

For Use with either Panel or Back Saws

NO.	DESCRIPTION	EACH
50	Length 20 inches, without Saw,	$7 00

ONE IN A BOX.

New Langdon, Improved.

Complete with Disston No. 8 Saw.

No.	27	28	29	34
Size of Saw	20 × 4 in.	22 × 4 in.	24 × 4 in.	28 × 5 in
Each,	$9 50	10 00	10 50	14 00

The new Langdon Mitre Box cuts by using the circular arms or guides, from right angles to 75 degrees on 2½ inch stuff, varying more or less with width of stuff.

ONE IN A BOX.

Pearl Agate Tea and Coffee Pots.

ENAMELED WOOD "ALWAYS COOL HANDLES."

TEA POTS.

Assorted Tints, White Porcelain Inside.

No.	Quantity	Per Dozen
5553	3 Pints,	$17 00
5554	4 Pints,	19 00
5555	5 Pints,	21 00

COFFEE POTS.

Assorted Tints, White Porcelain Inside

No.	Quantity	Per Dozen
8503	3 Pints	$17 00
8504	4 Pints,	19 00
8505	5 Pints,	21 00
8506	6 Pints,	23 00

Pearl Agate Tea and Coffee Pots.

ENAMELED WOOD "ALWAYS COOL HANDLES."

TEA POTS

Two Decorations. White Porcelain Inside.
With Embossed Nickel Covers.

NO.	CAPACITY.	PER DOZEN
D 5553	3 Pints,	$21 00
D 5554	4 Pints,	23 00
D 5555	5 Pints,	25 00

COFFEE POTS.

Two Decorations. White Porcelain Inside.
With Embossed Nickel Covers.

NO.	CAPACITY.	PER DOZEN
D 8503	3 Pints,	$21 00
D 8504	4 Pints,	23 00
D 8505	5 Pints,	25 00
D 8506	6 Pints,	27 00

Pearl Agate Tea and Coffee Pots.

ENAMELED WOOD "ALWAYS COOL HANDLES."

TEA POTS.

Two Decorations. White Porcelain Inside.
With Embossed Nickel Covers.

NO.	CAPACITY	PER DOZEN.
D 6753	3 Pints,	$26 00
D 6754	4 Pints,	28 00
D 6755	5 Pints,	30 00

COFFEE POTS.

Two Decorations. White Porcelain Inside.
With Decorated Pearl Agate Covers.

NO.	CAPACITY.	PER DOZEN
D 6783	3 Pints,	$29 00
D 6784	4 Pints,	31 00
D 6785	5 Pints,	33 00
D 6786	6 Pints,	36 00

Pearl Agate Tea and Coffee Pots.

TEA POTS

Oval Pattern. White Porcelain Inside.
White Metal Mountings and
Protection Bands.
Nickel Plated.

NO.	CAPACITY.	PRICE
8953	3 Pints,	$5 50
8954	4 Pints,	6 00

COFFEE POTS

Enameled Wood "Always Cool Handles."
Assorted Tints. White Porcelain Inside
With Embossed Nickel Covers.

NO.	CAPACITY.	PER DOZEN
6763	3 Pints,	$21 00
6764	4 Pints,	23 00
6765	5 Pints,	25 00

Pearl Agate Tea and Coffee Pots.

WHITE METAL MOUNTINGS AND PROTECTION BANDS.

TEA POTS.

Decoration H. White Porcelain Inside
Nickel Plated.

No.	Capacity	Each
2063	3 Pints,	$4 75
2064	4 Pints,	5 25
2065	5 Pints,	5 75

COFFEE POTS.

Decoration H. With Deep Infusion Sacks.
White Porcelain Inside. Nickel Plated.

No.	Capacity	Each
2064	4 Pints,	$6 00
2065	5 Pints,	6 50

Pearl Agate Tea and Coffee Pots.

WHITE METAL MOUNTINGS AND PROTECTION BANDS.

TEA POTS.

Decoration C. White Porcelain Inside.
Nickel Plated.

NO.	CAPACITY.	EACH.
8653	3 Pints,	$5 00
8654	4 Pints,	5 25

PERFECTION GRANITE IRON

COFFEE POTS

White Metal Mountings and Protection Bands.
With Deep Infusion Sacks.

NO.	CAPACITY	PER DOZEN
4704	4 Pints,	$30 00
4705	5 Pints,	33 00
4707	6 Pints,	36 00

Pearl Agate Tea and Coffee Pots.

WHITE METAL MOUNTINGS AND PROTECTION BANDS.

TEA POTS.

White Porcelain Inside Decoration I.

Nickel Plated.

NO.	CAPACITY	EACH.
6153	3 Pints,	$4 25
6154	4 Pints,	4 75
6155	5 Pints,	5 25

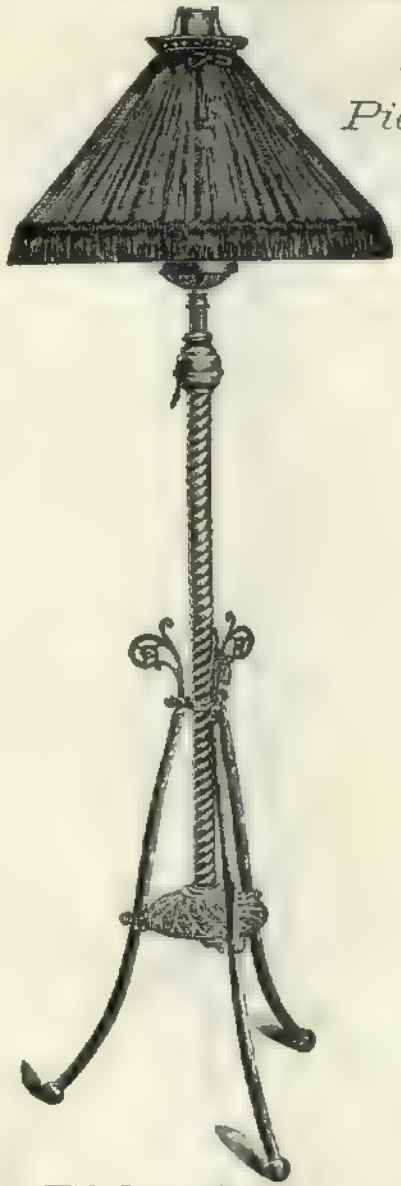
COFFEE POTS.

With Deep Infusion Sacks. Assorted Tints.

White Porcelain Inside. Nickel Plated.

NO.	CAPACITY	EACH
8764	4 Pints,	$3 50
8765	5 Pints,	3 75

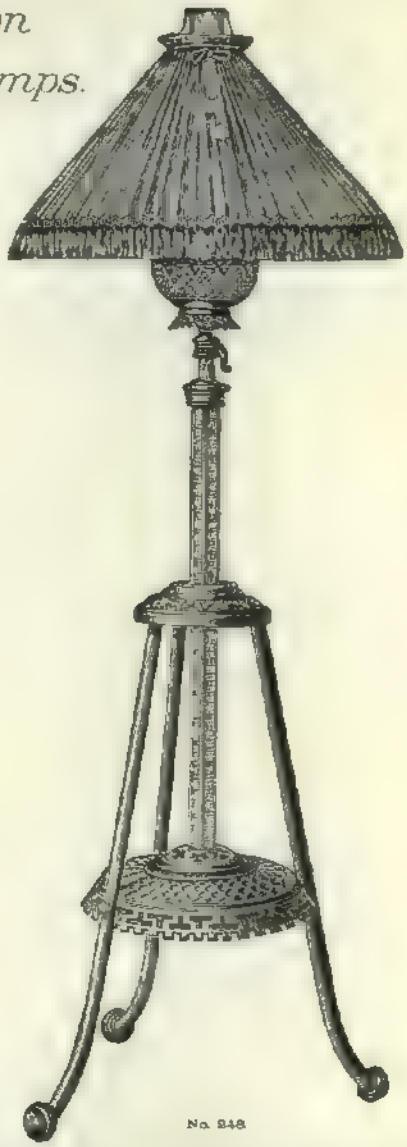
Extension Piano Lamps.



With Central Draft Fount.

NO	DESCRIPTION	EACH
1552	Piano Lamp, without Chimney, Shade or Holder, Bright Silver Finish,	$8 35
1553	Same as above, but complete with Linen Umbrella Shade, Holder and Chimney, as shown above,	9 45

Height, Closed, 48 inches; Extended, 68 inches. Detachable Metal Fount. Safety Air Cushion Extension.



No. 248

With Rochester Central Draft Fount.

NO	DESCRIPTION	EACH
247	Piano Lamp, as shown above, no Chimney, Shade or Holder, Polished Brass,	$10 20
0247	Same as above, no Chimney, Shade or Holder, Nickel Plate,	11 55
248	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder Brass,	11 30
0248	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder, Nickel,	12 65

Length, Closed, 59 inches. Extended, 71 inches. Embossed Fount. Shades may be ordered in Red, Rose, Orange, Yellow or Pink. Detachable Metal Fount.

Extension Piano Lamps.

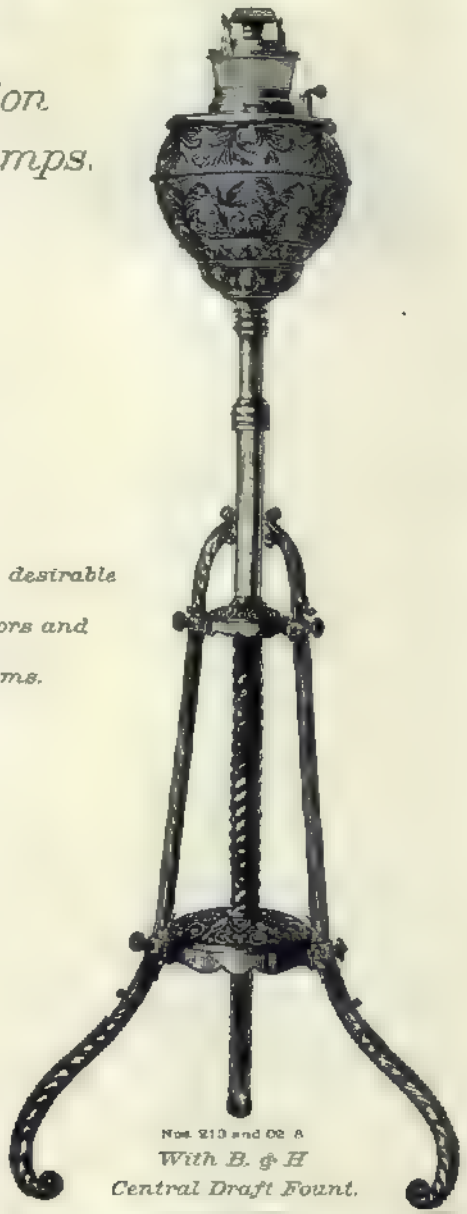
No. 267

With Central Draft Fount.

NO.	DESCRIPTION	EACH
267	Piano Lamp, as shown above, complete with Chimney, Linen Umbrella Shade and Holder, Onyx Base, Polished Gilt Finish,	$17 60
268	Same as above, but without Chimney, Shade or Holder	16 70

Height Closed 56 inches, Extended 72 inches. Embossed Detachable Fount. Safety Air Cushion. Shades may be ordered Red, Blue, Orange, Yellow or Pink.

Piano Lamps are desirable for use in Parlors and Dining Rooms.



Nos. 213 and 02 8

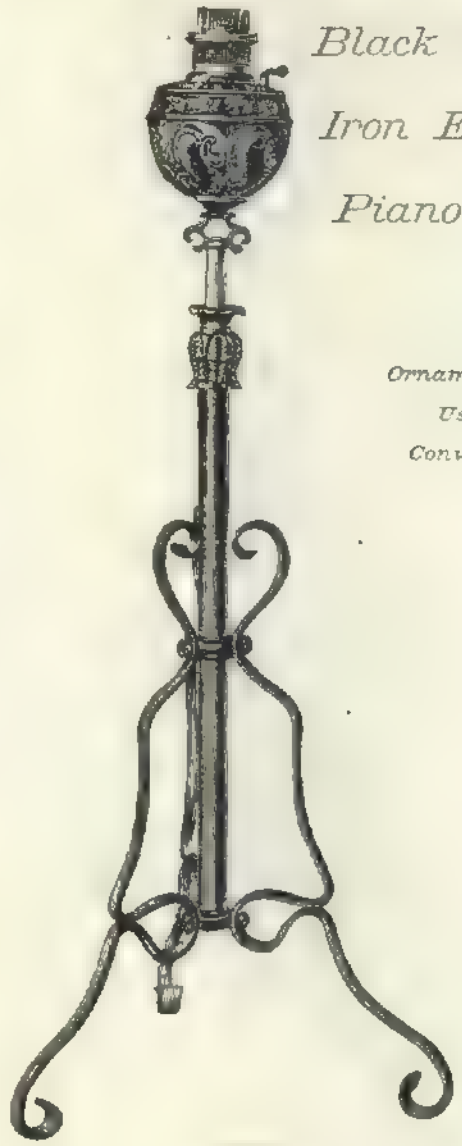
With B. & H Central Draft Fount.

NO	DESCRIPTION	EACH.
213	Piano Lamp, as shown above, no Chimney, Shade or Holder, Genuine Gold Plate,	$18 70
0213	Same as above, no Chimney, Shade or Holder, Silver Relief,	18 05
215	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder, Gold Plate,	17 80
0215	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder, Silver Relief,	19 15

Length, Closed, 54 inches. Extended, 74 inches. Embossed Fount Holder. Extension can be regulated by a Thumbscrew at bottom of center Rod. Shades may be ordered in Red, Blue, Orange, Yellow or Pink. Detachable Metal Fount.

Black Wrought Iron Extension Piano Lamps.

Ornamental, Useful and Convenient



With Central Draft Founts.

NO.	DESCRIPTION	EACH.
235	Piano Lamp as shown, with Chimney, Shade and Holder, Black Wrought Iron Finish	$8 55
236	Same as above but complete with Chimney, Linen Umbrella Shade and Holder	9 45

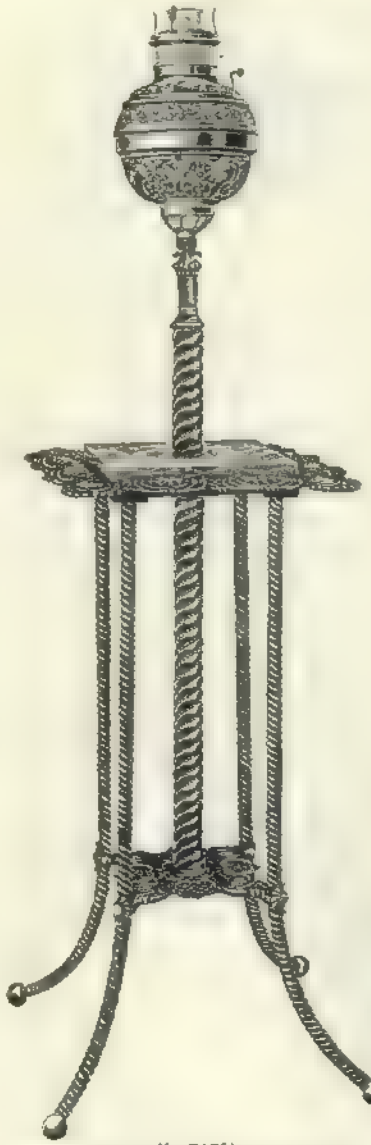
Length, Closed 54 inches, Extended 74 inches. Detachable Metal Fount. Shades may be ordered in Red, Blue, Orange, Yellow or Pink.

With Central Draft Founts

NO.	DESCRIPTION	EACH
D237	Piano Lamp as shown, with Chimney, Shade or Holder, Hand Polished, Black Wrought Iron Finish	$12 50
D238	Same as above but complete with Chimney, Linen Umbrella Shade and Holder.	13 00

Length, Closed 55 inches. Extended 75 inches. Detachable Metal Fount. Shades may be ordered in Red, Blue, Orange, Yellow or Pink.

Extension Piano Lamps.



No. D1561

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D1561	Piano Lamp, without Chimney, Shade or Holder, Polished Brass, 8x8 inch Onyx Top,	$15 75
D1562	Same as above, but complete with Chimney, Linen Shade and Holder,	16 85

Height Closed 48 inches, Extended, 65 inches. Selected Onyx Table, Embossed Detachable Fount. Shades may be ordered in any color. For Fancy Linen and Fine Silk Shades see our Illustrations. Back of Catalogue.

For Fine Silk Shades suitable for these Lamps see full line at back of Catalogue.

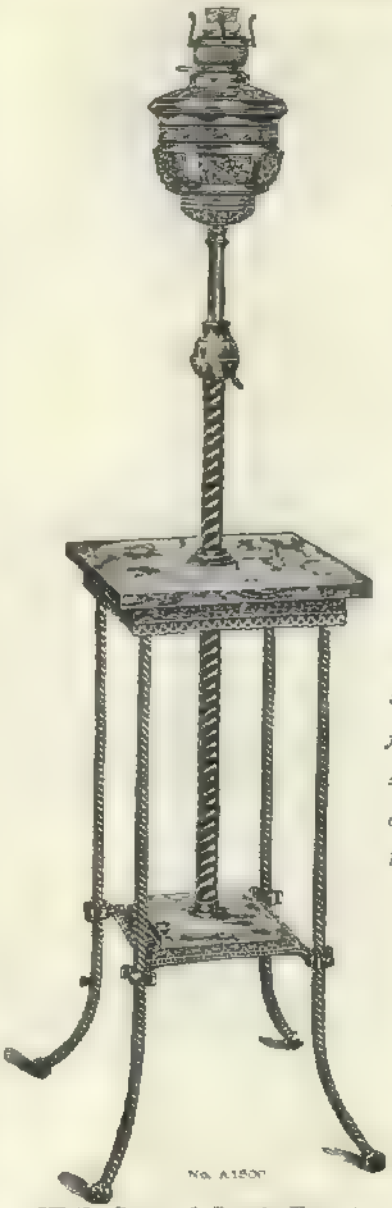
No. D157.

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D157	Piano Lamp, as shown above, no Chimney, Shade or Holder, Hand Forged, Black Wrought Iron Finish,	$16 65
D158	Same as above, but complete with Chimney, Linen Cluster Shade and Holder,	17 75

Length, Closed, 55 inches, Extended, 75 inches. Detachable Metal Fount. Shades may be ordered in Red, Blue, Orange, Yellow or Pink.

Extension Piano Lamps.



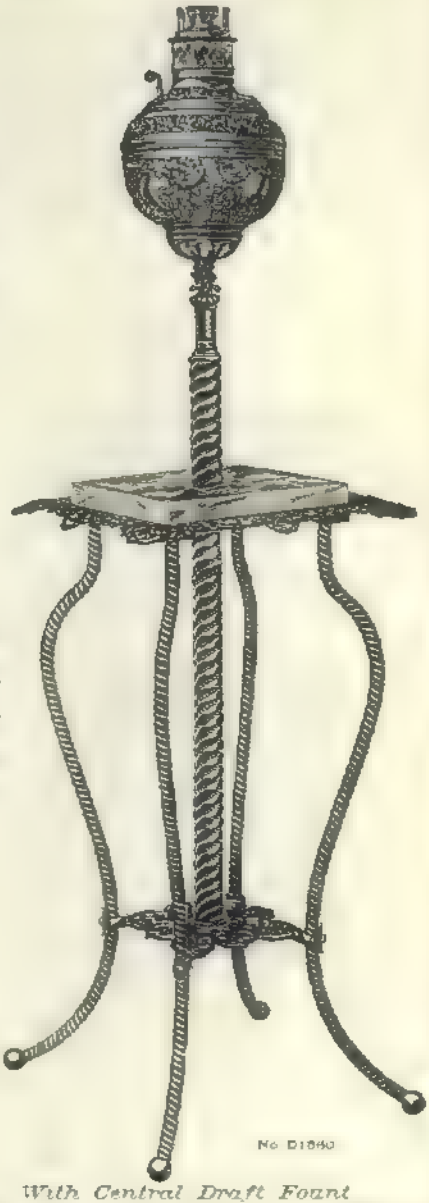
No. A1500

With Central Draft Fount.

NO.	DESCRIPTION	EACH.
A1500	Piano Lamp, with 10 inch Onyx Shade or Holder, Polished Brass, Onyx Table and Center Piece,	$17 60
A1510	Same as above, but without Chimney, 14 inch Linen Shade and Holder,	18 70

Height, Closed 52 inches. Extended, 70 inches. Selected 20x20 inch Onyx Table and 14 inch Onyx Lamp Top. Fitted with Safety Air Cushion. Takes No. 2 Rochester Chimney and Wick. Shade may be ordered in any color

For Fine Silk Shades suitable for these Lamps see our full line at back of Catalogue.



No. D1560

With Central Draft Fount

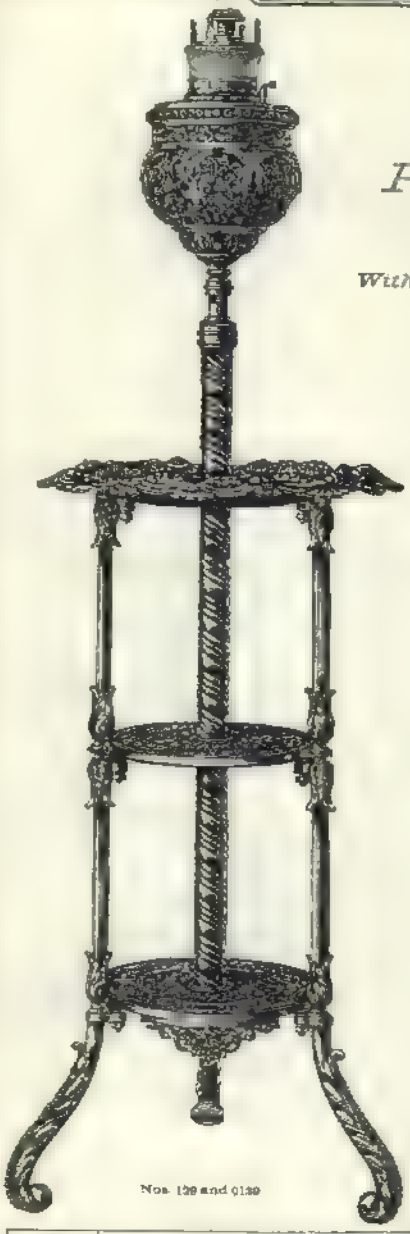
NO.	DESCRIPTION	EACH
D1559	Piano Lamp, with 10 inch Onyx Shade and Holder, Polished Gilt Finish, Onyx Top,	$19 80
D1560	Same as above, but without Chimney, Shade or Holder,	18 50

Height Closed, 50 inches. Extended, 65 inches. Selected Onyx, 7x7 inches. Decorated Metal Foun Takes No. 2 Rochester Chimney and Wick.

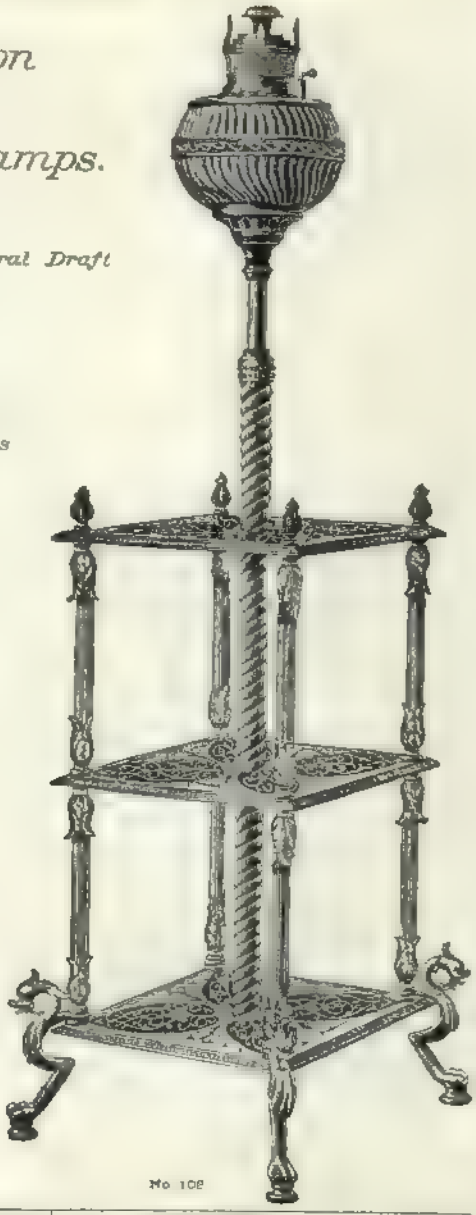
Extension Piano Lamps.

With B. & H. Central Draft Founts.

Trim Fine Piano Lamps with Silk Shades.



Nos. 129 and 0129



No. 108

No.	DESCRIPTION	EACH.
129	Piano Lamp, as shown above, no Chimney Shade or Holder. Genuine Gold Plate,	$20 35
0129	Same as above, no Chimney. Shade or Holder. Silver Plate,	22 30
130	Same as No. 129, complete with Chimney, Shade and Holder. Genuine Gold Plate,	21 45
0130	Same as No. 130, complete with Chimney, Shade and Holder. Silver Plate,	23 30

Height of Table, 31 inches. Diameter of Shelves, 9 inches. Cast Nuts, Fount Holder. Length, Closed, 34 inches. Extended, 74 inches. Extension can be regulated by a simple screw under button shelf. Shades may be ordered in Red, Blue, Orange, Yellow or Pink.

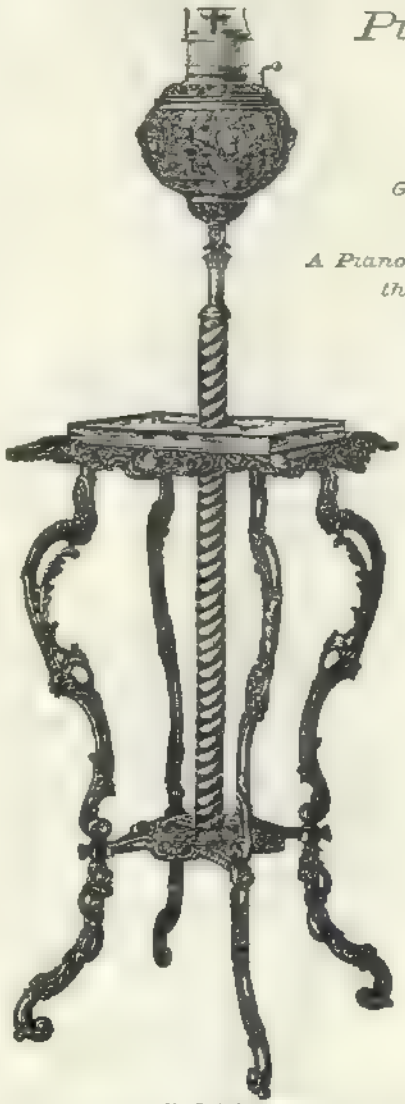
No.	DESCRIPTION	EACH
108	Piano Lamp, as shown above, no Chimney Shade or Holder. Genuine Gold Plate,	$20 35
[illegible]	Same as above, but complete with Chimney Shade and Holder. Genuine Gold Plate,	21 50
0108	Piano Lamp, as shown above, no Chimney Shade or Holder. Silver Plate,	22 30
0108	Same as above, but complete with Chimney Shade and Holder. Silver Plate,	23 45

Height of Table, 31 inches. Diamond shaped Shelves, size 12x17½ inches. Fluted Fount Holder. Length, Closed, 33 inches. Extended, 70 inches. The extension can be regulated by a thumb screw under the bottom shelf. Shades may be ordered in Red, Blue, Orange, Yellow, or Pink. Detachable Fount.

Extension Piano Lamps.

Genuine Gold Plate.

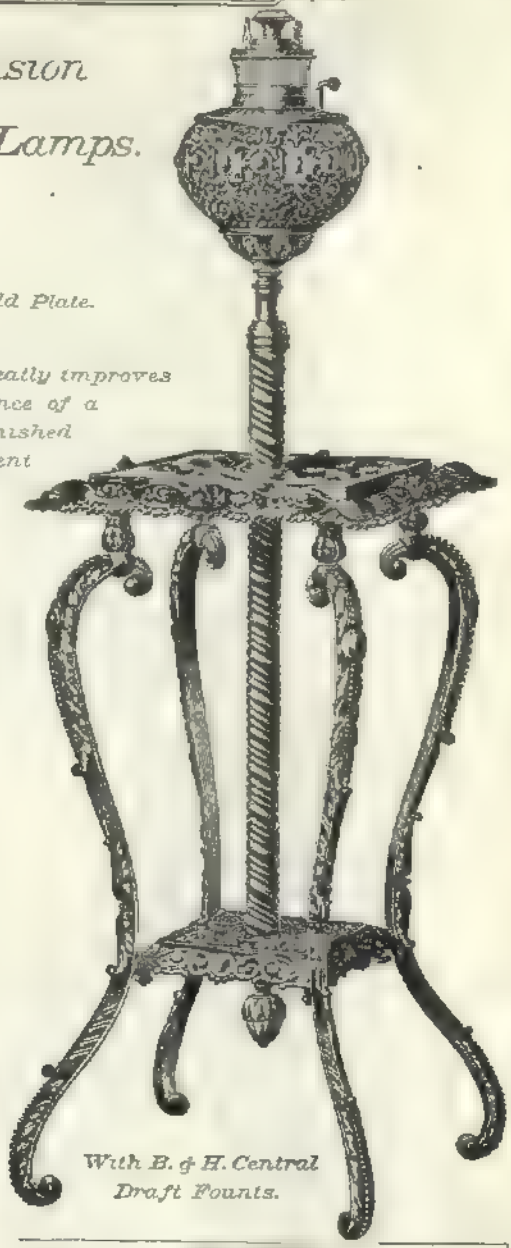
A Piano Lamp greatly improves the appearance of a nicely furnished apartment



No. D 856

NO.	DESCRIPTION	EACH
D1555	Piano Lamp, complete with Linen Umbrella Shade and Holder Onyx Top, Polished Gilt Finish.	$28 90
D1566	Same as above, but without Chimney, Shade or Holder	27 60

Height, Closed, 49 inches; Extended 80 inches. Selected Onyx 9x9 inches. Detachable Metal Fount. Cut Fount Holder.



With B. & H. Central Draft Founts.

NO.	DESCRIPTION	EACH
1501	Piano Lamp, as shown, complete with Chimney, Shade or Holder, Genuine Gold Plate	$44 95
1502	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder, Genuine Gold Plate	45 55

Height of Table, 30 inches; Onyx Top Piano inches square. Length, Closed, 44 inches, Extended, 78 inches. Extension to be regulated by a Thumbscrew under the bottom shelf. Shades may be ordered in Red, Blue, Orange, Yellow or Pink. Detachable Metal Fount.

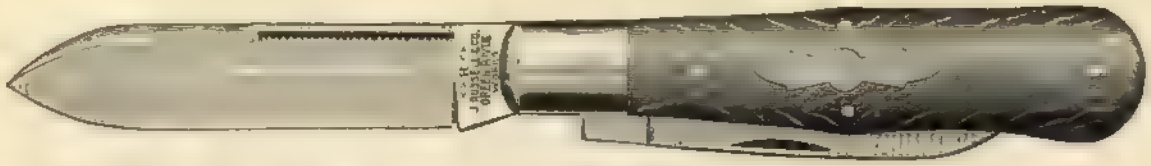
Pocket Knives.

CUTS FULL SIZE

The John Russell Cutlery Co.'s.

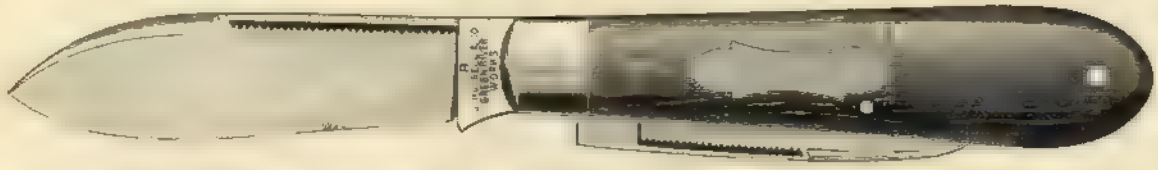
No.		Per Dozen
2273.	2 Blades, Redwood, German Silver Shield and Bolster, Brass Lined. . .	$8.00
3273.	2 Blades, Ebony, German Silver Shield and Bolster, Brass Lined. . . .	8.25

6273.	2 Blades, Stag, German Silver Shield and Bolster, Brass Lined . .	10.00



0276.	2 Blades, Patent Stag, Swaged, Spear Point, Brass Lined, ...	10.00
3276.	2 Blades, Ebony, Swaged, Spear Point, Brass Lined, ...	9.00

0279.	2 Blades, Patent Stag, Swaged, Clipped Blade, Brass Lined, ...	9.50
3279.	2 Blades, Ebony, Swaged, Clipped Blade, Brass Lined, ...	8.50



2277.	2 Blades, Redwood, German Silver Shield and Bolster, Iron Lined, . .	7.75
3277.	2 Blades, Ebony, German Silver Shield and Bolster, Iron Lined, . . .	7.75
2279.	2 Blades, Redwood, German Silver Shield and Bolster, Brass Lined, . .	8.50
3279.	2 Blades, Ebony, German Silver Shield and Bolster, Brass Lined, . . .	8.50

2272.	2 Blades, Redwood, German Silver Shield and Bolster, Iron Lined, . .	6.75
3272.	2 Blades, Ebony, German Silver Shield and Bolster, Iron Lined, . . .	6.75

Pocket Knives.

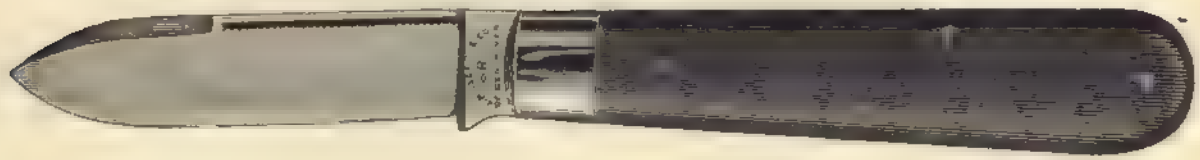
CUTS FULL SIZE

The John Russell Cutlery Co.'s.

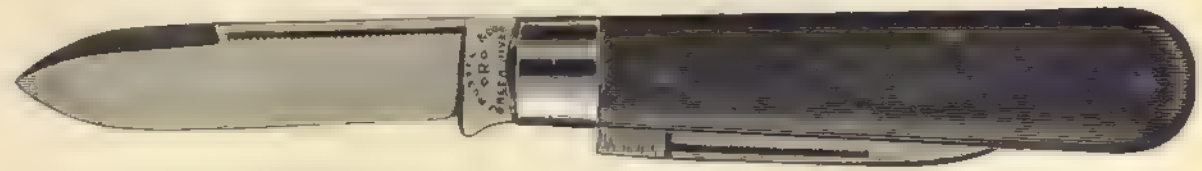
No. PER DOZEN

2170. 1 Blade, Redwood, Spear Point, Iron Lined, ... $4.30

2270. 2 Blades, Redwood, Spear Point, Iron Lined, ... 6.30

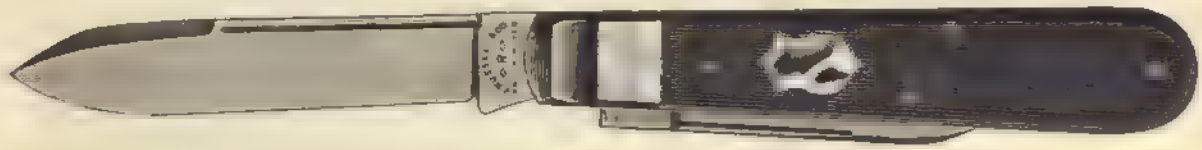


2180. 1 Blade, Redwood, Spear Point, Iron Lined, ... 5.40



2280. 2 Blades, Redwood, Spear Point, Iron Lined, ... 7.75

3175. 1 Blade, Ebony, German Silver Shield and Bolster, Brass Lined, . . . 5.75



3275. 2 Blades, Ebony, German Silver Shield and Bolster, Brass Lined, . 8.00

Half Dozen in a Box.

Pocket Knives.

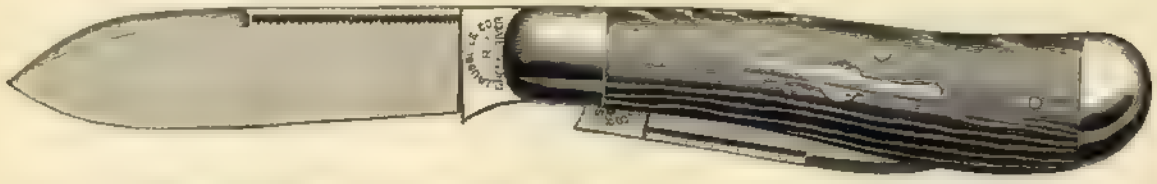
CUTS FULL SIZE

The John Russell Cutlery Co.'s

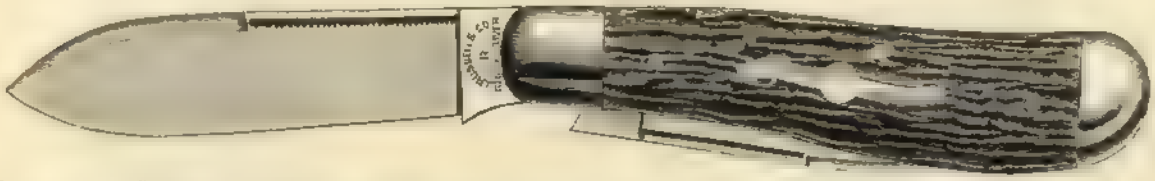
No. | Per Dozen

6257. 2 Blades, Stag, German Silver Cap and Bolster, Brass Lined. . . $10.50

C 2220. 2 Blades, Redwood, German Silver Cap and Bolster, Iron Lined. . . 6.75
C 3220. 2 Blades, Ebony, German Silver Cap and Bolster, Iron Lined, . . 6.75



C 2240. 2 Blades, Redwood, German Silver Cap and Bolster, Iron Lined. . . 7.75
C 3240. 2 Blades, Ebony, German Silver Cap and Bolster, Iron Lined, . . 7.75
C 2245. 2 Blades, Redwood, German Silver Cap and Bolster, Brass Lined. . . 9.00
C 3245. 2 Blades, Ebony, German Silver Cap and Bolster, Brass Lined, . . . 9.00



C 0240. 2 Blades, Patent Stag, German Silver Cap and Bolster, Iron Lined, . 8.50
C 0245. 2 Blades, Patent Stag, German Silver Cap and Bolster, Brass Lined, . 10.00

2268. 2 Blades, Redwood, Clip Blade, Iron Lined, ... 5.4

0268. 2 Blades, Patent Stag, Clip Blade, Iron Lined, ... 6.25

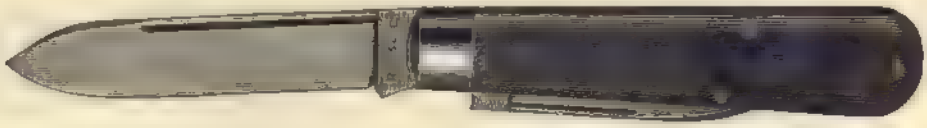
Half Dozen in a Box.

Pocket Knives.

CUTS FULL SIZE

The John Russell Cutlery Co.'s.

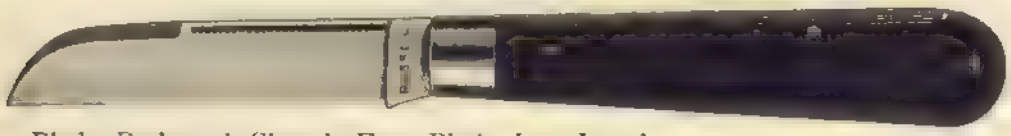
No.		Per Dozen
215.	1 Blade, Redwood, Spear Point, Iron Lined,	$2.10



225.	2 Blades, Redwood, Spear Point, Iron Lined,	2.65

250.	1 Blade, Redwood, Spear Point, Iron Lined,	2.25
350.	1 Blade, Ebony, Spear Point, Iron Lined,	2.25

252.	2 Blades, Redwood, Spear Point, Iron Lined,	3.60
352.	2 Blades, Ebony, Spear Point, Iron Lined,	3.60



251.	1 Blade, Redwood, Sheep's Foot Blade, Iron Lined,	2.25

2202.	2 Blades, Redwood, Sheep's Foot Blade, Iron Lined,	5.00

Half Dozen in a Box.

Pocket Knives.

CUTS FULL SIZE

The John Russell Cutlery Co.'s

		Per Dozen
2265.	2 Blades, Redwood, German Silver Shield and Bolster, Brass Lined,	$6 75
3265.	2 Blades, Ebony, German Silver Shield and Bolster, Brass Lined,	6.75

C2265.	2 Blades, Redwood, German Silver Cap, Shield and Bolster, Brass Lined,	8.00
C3265.	2 Blades, Ebony, German Silver Cap, Shield and Bolster, Brass Lined,	8 00

C2266	2 Blades, Redwood, German Silver Double Ends, Brass Lined,	9 00
C3266.	2 Blades, Ebony, German Silver Double Ends, Brass Lined,	9.00

32652.	2 Large Blades, "Carpenter's Knife," Ebony, Brass Lined,	8.00

6360.	3 Blades, "Cattle Knife," Stag, Iron Lined,	12.50

Half Dozen in a Box.

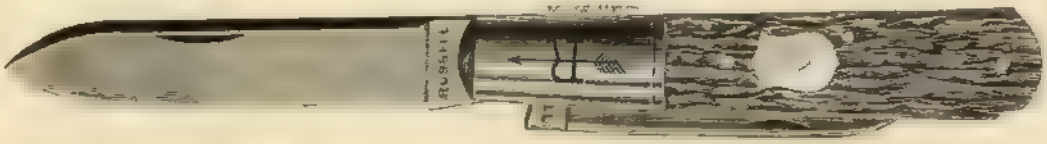
Pocket Knives.

The John Russell Cutlery Co.'s.

No. Per Dozen

60. 1 Blade Barlow, Pressed Handle, Spear Point, ... $3.00

62. 2 Blade Barlow, Pressed Handle, Spear Point, ... 5 00



42. 2 Blade Barlow, White Bone Handle, with Shield, Spear Point, . . 7 00

52. 2 Blade Barlow, Grey Buffalo Handle, with Shield, Spear Point, . . . 7.00

062. 2 Blade Barlow, American Stag Handle, with Shield, Spear Point, . . 7.00

603. 1 Blade Speying, Pressed Handle. 4.00

15. 1 Blade, Boys', Iron Handle, Square Point, ... 1 80

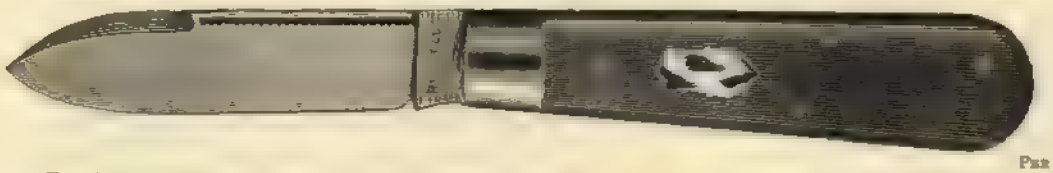
16. 1 Blade, Boys', Iron Handle, Spear Point, ... 1.80

One Dozen in a Box.

Pocket Knives.

CUTS FULL SIZE

The John Russell Cutlery Co.'s.

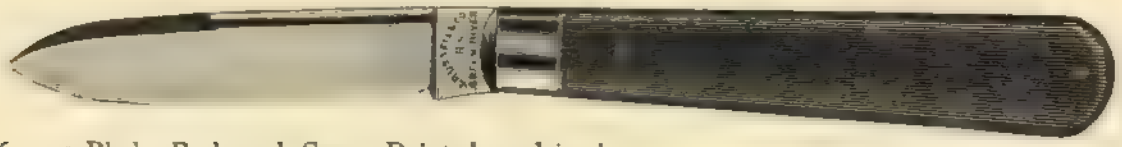


No.		Per Dozen
220	1 Blade, Redwood, with Shield, Spear Point, Iron Lined,	$2.70
320.	1 Blade, Ebony, with Shield, Spear Point, Iron Lined,	2 70

222.	2 Blades, Redwood, with Shield, Spear Point, Iron Lined,	4.00
322.	2 Blades, Ebony, with Shield, Spear Point, Iron Lined,	4.00

230.	1 Blade, Redwood, with Shield, Clip Blade, Iron Lined,	3.00
330.	1 Blade, Ebony, with Shield, Clip Blade, Iron Lined,	3.00

232.	2 Blades, Redwood, with Shield, Clip Blade, Iron Lined,	4.25
332.	2 Blades, Ebony, with Shield, Clip Blade, Iron Lined,	4 25



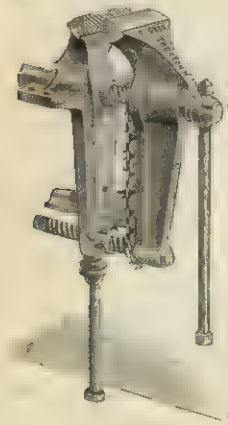
2160.	1 Blade, Redwood, Spear Point, Iron Lined,	3.60
3160.	1 Blade, Ebony, Spear Point, Iron Lined,	3.60

2260.	2 Blades, Redwood, Spear Point, Iron Lined,	5.40
3260.	2 Blades, Ebony, Spear Point, Iron Lined,	5.40

Half Dozen in a Box.

VISES.

Fig. 655.



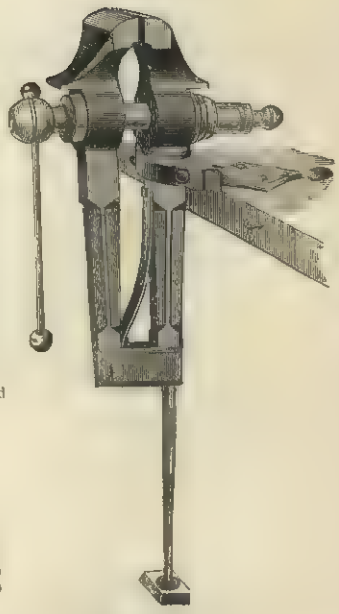
WROUGHT IRON SOLID BOX.

SIZES AND PRICES.

Width of Jaw.	Weight about	Price.	Width of Jaws.	Weight about.	Price
3¾ in	35 lbs	$10 00	6 in.	100 lbs	$22 00
4 "	40 "	10 50	6 "	110 "	24 00
4¼ "	45 "	11 00	6 "	115 "	25 00
4½ "	50 "	11 50	6½ "	120 "	26 00
4¾ "	55 "	12 00	6½ "	125 "	27.50
5 "	60 "	13 00	6⅝ "	130 "	29 00
5 "	65 "	14.00	7 "	140 "	33 00
5¼ "	70 "	15.00	7 "	150 "	36 00
5¼ "	75 "	16 00	7¼ "	160 "	41 50
5½ "	80 "	17 50	7¾ "	170 "	44 50
5½ "	85 "	18.50	7½ "	180 "	47 00
5¾ "	90 "	20 00	7¾ "	190 "	53 00
5¾ "	95 "	21 00	8 "	200 "	56 00

In ordering Solid Box Vises, give width of Jaw and approximate weight

Fig. 656.



WROUGHT IRON SOLID BOX.

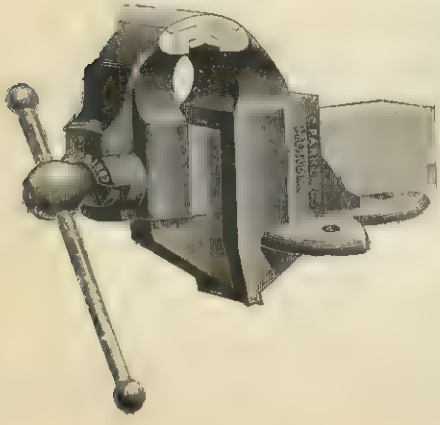
EAGLE PARALLEL CHAIN.

SIZES AND PRICES.

No. 2, weight about 65 lbs., Jaws 4½ in. x 1 in., Screws 1⅛ in. diam., Lever 13 in. long, opens 5½ in., $10.50
" 3, " " 90 " " 5½ " x 1¼ " " 1¼ " " " 16 " " " 6½ " 16 00
" 4, " " 140 " " 6 " x 1½ " " 1½ " " " 19 " " " 7½ " 20 50
" 5, " " 150 " " 7 " x 1⅝ " " 1⅝ " " " 24 " " " 9 " 27 00
" 6, " " 160 " " 8 " x 1½ " " 1¾ " " " 26 " " " 10 " 30 00

*NOTE—No. 2, Leg is unnecessary, therefore omitted

Fig. 657.



PARALLEL "Parker's."

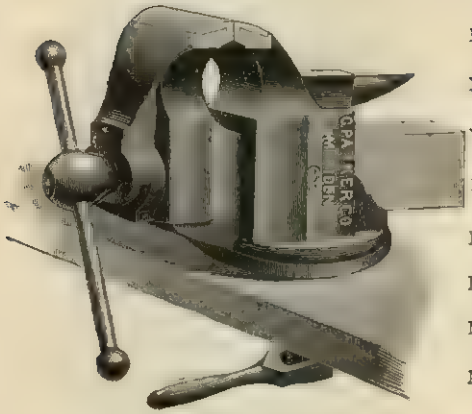
No. 000. Round Jaws, each . . . . . $ 6.25
Weight, 23 lbs.; length of jaws, 3¼ inches.
No. 1. Round Jaws, each 7.00
Weight, 31½ lbs.; length of Jaws, 3⅝ inches.
No. 2. Round Jaws, each 9.00
Weight, 41¼ lbs.; length of jaws, 4¼ inches.
No. 3. Round Jaws, each 11.75
Weight, 59½ lbs.; length of jaws, 4⅞ inches.
No 4. Round Jaws, each 16 25
Weight 83 lbs.; length of jaws 5⅝ inches.
No 5. Round Jaws, each 24.00
Weight 120 lbs.; length of jaws, 6⅛ inches.
No. 6. Round Jaws, each 50.00
Weight, 237 lbs.; length of Jaws, 8⅛ inches.
No. 60. Round Jaws, each 50 00
Weight 240 lbs.; opens 12½ inches.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

VISES.

"PARKER'S."

Fig. 658.



PARALLEL SWIVEL.

PARALLEL SWIVEL.

No. 19. Round Jaws, Swivel, with cast steel Anvil, each, $ 4.00
Weight, 8 lbs.; length of jaws, 2 inches.

No. 20. Round Jaws, Swivel, with cast steel Anvil, each. 5.00
Weight, 8½ lbs.; length of jaws, 2¼ inches.

No. 21. Round Jaws, Swivel, with cast steel Anvil, each, 7.00
Weight, 23 lbs.; length of jaws, 3⅛ inches.

No. 22. Round Jaws, Swivel, with cast steel Anvil, each, 8.75
Weight, 35 lbs.; length of jaws, 3⅝ inches.

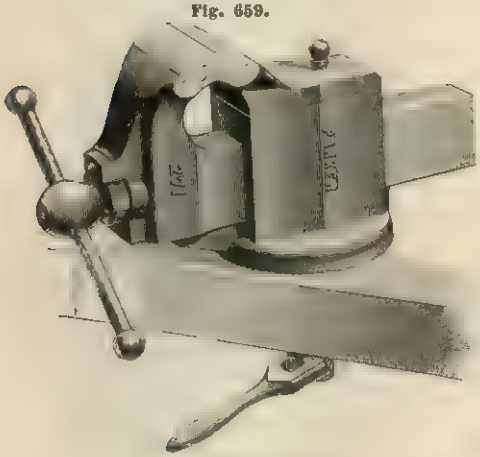
No. 23. Round Jaws, Swivel, **without** Anvil, each.... 11.00
Weight, 48 lbs.; length of jaws, 4¼ inches.

No. 24. Round Jaws, Swivel, without Anvil, each... 14.50
Weight, 63½ lbs.; length of jaws, 4¾ inches.

No. 25. Round Jaws, Swivel, without Anvil, each... 20.50
Weight, 90 lbs.; length of jaws, 5⅝ inches.

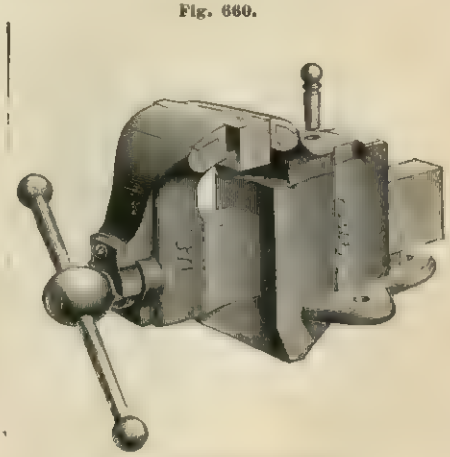
No. 26. Round Jaws, Swivel, without Anvil, each.... 30.00
Weight, 131 lbs.; length of jaws, 6⅛ inches.

Fig. 659.



VICTOR, SWIVEL

Fig. 660.



PATENT PARALLEL VICTOR.

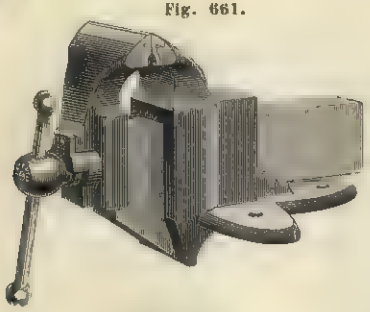
No. 270.	Length	of	Jaws,	3¼	in.,	weight	30	lbs.,	each,	$ 7.00			
No. 271.	"	"		3⅝	"	"	39	"	"	8.50			
No. 272.	"	"		4½	"	"	56	"	"	12.50			
No. 273.	"	"		5	"	"	74	"	"	16.00			
No. 274.	"	"		5½	"	"	110	"	"	19.00			
No. 275.	"	"		6¼	"	"	160	"	"	27.00			
No. 240.	"	"		7½	"	"	200	opens 12 in.		35.00			

No. 370.	Length	of	Jaws,	3¼	in.,	weight	29	lbs.,	each,	$ 6.50			
No. 371.	"	"		3⅝	"	"	38	"	"	7.00			
No. 372	"	"		4½	"	"	54	"	"	10.50			
No. 373.	"	"		5	"	"	73	"	"	14.00			
No. 374.	"	"		5½	"	"	96	"	"	17.00			
No. 375.	"	"		6¼	"	"	135	"	"	24.00			
No. 340.	"	"		7½	"	"	185	opens 12 in.		30.00			

VISES.

"PARKER'S."

Fig. 661.

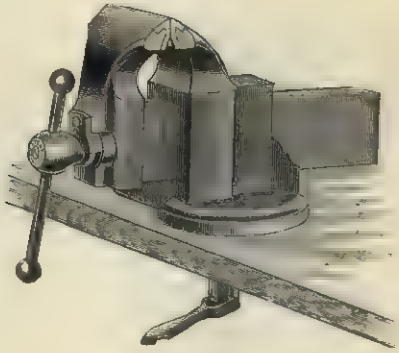


PATENT FILERS.

No. 42. Each $7 25
Length of jaws, 4 inches; weight 33 lbs.

No. 42½. Each 6.75
Length of jaws, 3½ inches; weight 30 lbs.

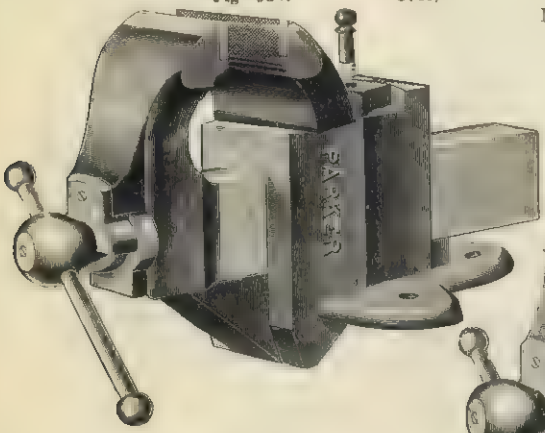
Fig. 662.



SWIVEL FILERS.

No. 44. Each..... $8.75
Length of jaws, 4 inches; weight 37 lbs.

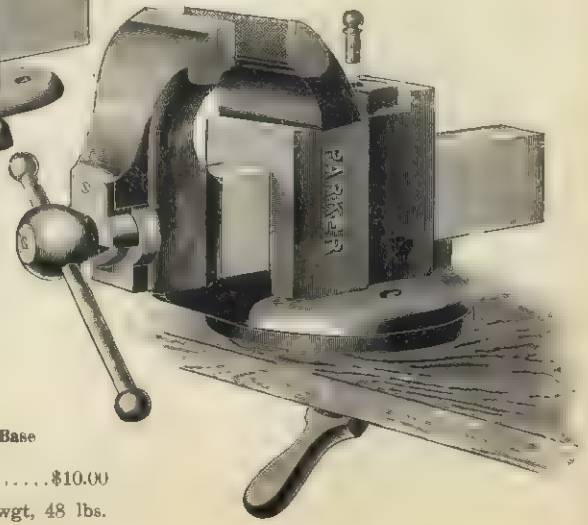
Fig 663. (878.)



Victor Saw Filers.

No. 378. Each $8.00
Length of jaw, 4½ in.; opens 5½ in.; wgt. 42 lbs.

Fig 661. (278.)



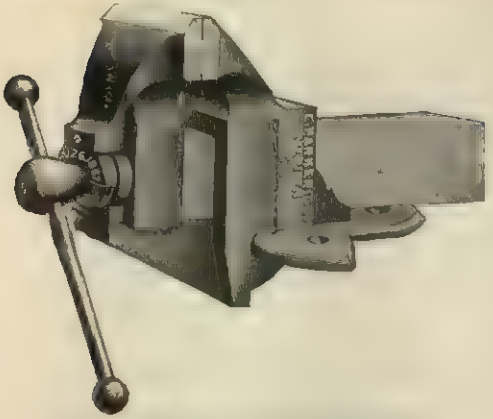
Victor Saw Filers, with Swivel Base

No. 278. Each..... $10.00
Length of jaw 4½ in.; opens 5½ in.; wgt, 48 lbs.

VISES.

"PARKER'S" COACHMAKER'S.

Fig. 665.

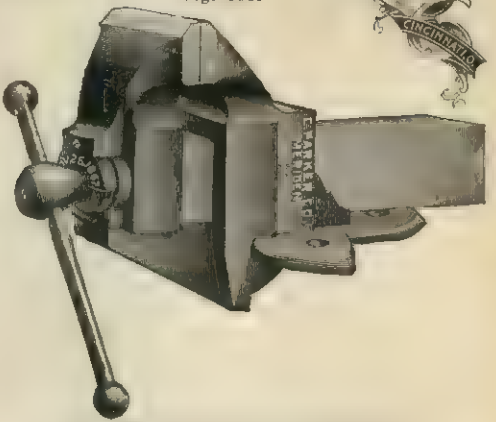


No. 40½. PARALLEL COACHMAKER'S VISE.

No. 40½. Each $10.25

Length of jaws, 4½ inches, opens 9 inches.

Fig. 666.

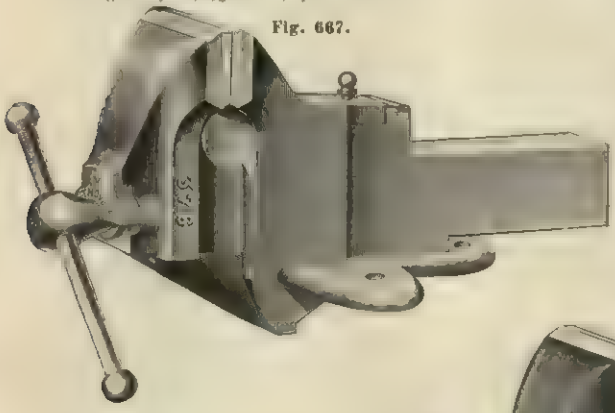


No. 4000. PARALLEL COACH VISE.

No. 4000. Each $10 00

Length of jaws, 4 inches, opens 8 inches.

Fig. 667.



SWIVEL BOTTOM AND BACK JAWS.

No. 276. 4 inch Jaws, opens 7½ in., weight 40 lbs., each.....$9.50

No. 277. 4½ inch Jaws, opens 9½ in., weight, 65 lbs., each.....13.00

These Vises have self-adjusting back jaws, which adapt themselves automatically to holding irregular shaped articles.

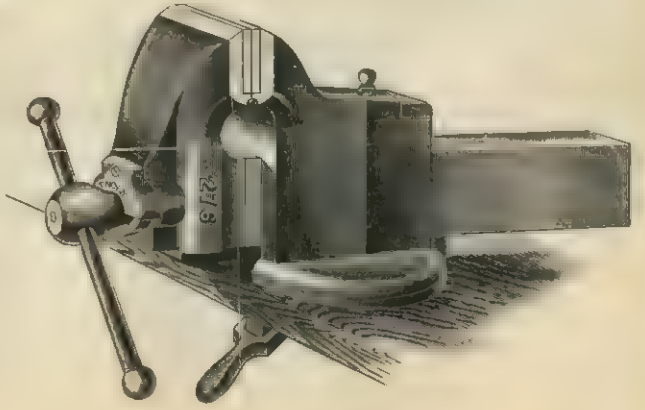
PARKER'S VICTOR WOOD WORKERS VISES.

Stationary Bottom and Swivel Back Jaws.

No, 376. 4 inch Jaws, opens 7½ in,, weight, 35 lbs.; each.....$ 8.00

No. 377, 4½ inch Jaws, opens 9½ in., weight, 59 lbs, each.....11.00

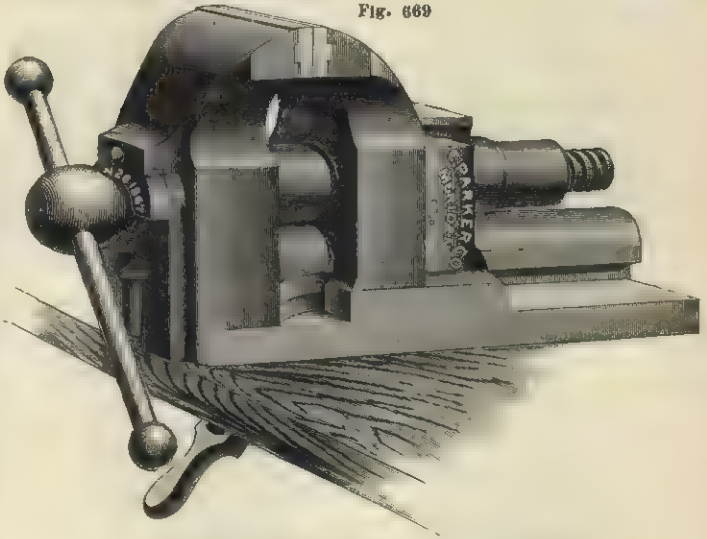
Fig. 668.



VISES.

Parker's (Without Patented Improvements.)

Fig. 669



No. 65. PATENT SWIVEL, HEAVY CHIPPING OR FILING.

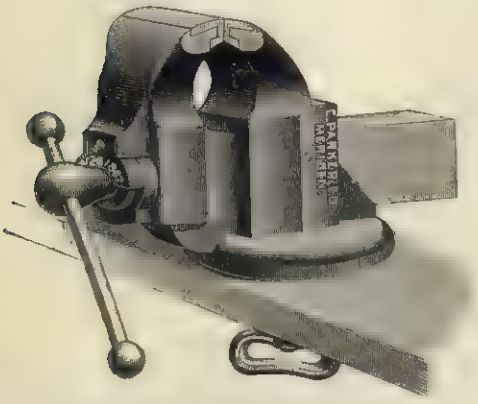
These Vises are made exceedingly strong to allow chipping or filing without danger of breaking the Vise.

The STEEL JAWS are closely fitted and held by screws, so after years of use new ones may easily be substituted. The SCREW is encased and thoroughly protected, and so located that the operator may obtain its full power, and the BACK JAW is the movable one, which allows the work to rest upon the bench while the Vise is being operated. This Vise swivels on the bench.

No. 65. Length of Jaws, 5 inches; weight, 80 lbs.....each, $16.00

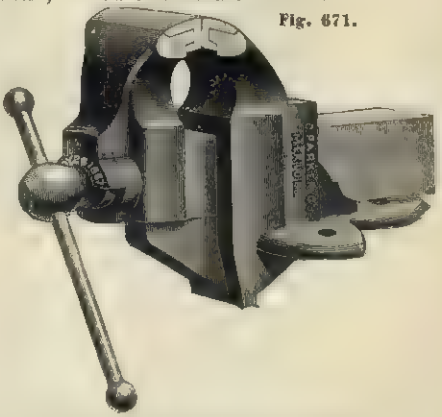
No. 66. Length of Jaws, 6 inches; weight, 110 lbs.....each, $24.00

Fig. 670.



Swivel without Parkers Improvements.

Fig. 671.



Parallel without Parkers Improvements.

The Parker Vises having been imitated in the market, the following numbers will be furnished, which correspond in length of Jaws and weight to the imitation Vises, but do not have the Wrought Iron Strengthener, or any of our patented improvements. They are equal in strength to any Vise in market, with the exception of our first quality For the purchaser's protection, these Vises are painted green so they can be easily distinguished from our regular Vises.

Swivel.				Parallel.			
No.	Length of Jaws.	Weight.	Each.	No.	Length of Jaws,	Weight.	Each.
2000	2¼ inches.	8½ lbs.	$ 4.00	0000	3¼ inches.	23 lbs.	$ 5 50
2100	3⅛ "	23 "	6 25	100	3⅝ "	31½ "	6.50
2200	3⅝ "	35 "	8.00	200	4¼ "	41½ "	8.50
2300	4¼ "	48 "	10.00	300	4¾ "	59½ "	10 75
2400	4¾ "	63½ "	13.25	400	5⅜ "	83 "	16.00
4600	4 " opens 8 in.	Coach Vise.	12.50	500	6½ "	120 "	23.75

VISES.

"PARKER'S."

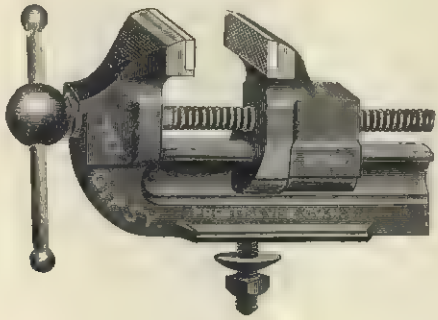
NET PRICE OF REPAIRS FOR PARKER VISES.

No. of Vise	Slide	Back Jaw	Screw.	Spring	Nut	Screws Each	Pr. Jaws per Set.
0000	$1 50	$2 00	$1 50	$0 25	$0 25	$0 25	
000	1.75	2 25	1.50	25	.25	25	..
1	2.00	2 50	1 50	25	25	.25	.
2	2.50	3.50	1.75	.25	.25	.25	....
3	4.00	5.00	1.75	25	25	25	..
4	4 50	6 50	2.00	.25	.37	37	..
5	8 00	10 00	2 50		37	37	
6	15.00	20.00	3 50	..	.50	.75	....
19	1.00	1.50	.75	.25	.25	..	....
20	1.25	2.00	1.00	.25	.25	.	....
21	2.00	2.50	1 50	.25	.25	25	....
22	2.25	3.50	1.50	.25	.25	25	....
23	2.75	3.75	1.50	.25	.25	.25	..
24	3 25	5 25	1 75	25	25	25	
25	5.00	9 00	2 00	.25	.25	.25	....
26	9.50	12 00	3.00	..	.37	.37	..
30	.60	1.00	.90	.25	.25	.	....
31	.75	1.50	1.00	.25	25	.	....
32	1.00	1.75	1.00	.25	.25	.	....
33	1 25	2.00	1.00	.25	.25	..	....
34	1 50	3.00	1.50	.25	.25	..	.
35	2.25	4.00	1.75	.25	.37	..	....
36	3.00	5.50	2.00	.25	37	..	....
40½	2.50	4.50	1.75	.25	.25	.	....
41	2 75	6.00	1 75	.25	.25	.	....
42	2.00	2 50	1.50	.25	.25	..	....
42½	1.75	2.50	1 25	25	.25	..	....
44	2.25	3 25	1.50	.25	.25	25	....
46	3.25	5.75	1.75	.25	.25	.	....
51	3.00	6.00	1.50	.25	.25	.25	....
60	15.00	20 00	3 50		50	75	
65	6 50	4 50	1 75	25	25	25	
66	11 00	8 00	2 00	25	37	37	
70	1 75	3 00	1 50	25	25	25	
71	2 00	3 50	1 50	25	25	25	
72	2 25	6 00	1 75	25	25	25	
73	2 75	7 50	1 75	25	25	25	
74	4 50	8 00	2 00	25	37	37	
75	8 00	11 00	2 50		37	37	
76	2 25	4 75	1 50	25	25		
77	3 25	6 50	1 75	25	25		
78	1 75	2 75	1 50	25	25		
81	3 25	6 00	1 75	25	25	25	
82	3 25	6 00	1 75	25	25	25	
83	3 25	6 00	1 75	25	25	25	
86	3 25	6 00	1 75	25	25	25	
87	3 75	5 00	1 50	25	25	25	$1 75
88	4 25	6 00	1 75	25	25	25	2 00
88½	6 00	8 00	2 00	25	25	37	2 50
89½	9 00	12 00	2 50	25	37	37	3 00
100	1 75	2 25	1 50	25	25	25	
160	14 00	20 00	3 50		50	75	
170	1 75	2 50	1 50	25	25	25	.
171	$1 75	$2 75	$1 50	$0 25	$0.25	$0 25	
172	2 25	4 00	1.75	25	.25	25	
173	2 75	5 75	1.75	25	25	25	
174	4 00	7 00	2 00	25	37	37	
175	7 00	11 00	2 50		37	37	
176	2 00	3 00	1 50	25	25		
177	2 50	5 75	1 50	25	.25	..	
178	2.00	4 00	1.50	.25	25	.	....
187	3 75	5 00	1.50	.25	.25	..	$1 75
188	4.25	6 00	1 75	25	.25	..	2.00
188½	6.00	8.00	2.00	25	25	..	2.50
189½	9.00	12 00	2.50	25	.37	..	3.00
200	2 00	3 00	1 75	.25	25	.25	....
216	1 00	2 25	.75	12	12		
218	1 25	2 50	.75	12	12		
240	15.00	28 00	3.50		50	75	.
260	15 00	22 00	3.50		50	75	
270	1 50	3.25	1.50	25	25	25	.
271	1.75	3.75	1.50	25	25	25	
272	2.00	6.25	1.75	25	25	25	
273	2.50	7.75	1.75	25	25	25	
274	5 50	11.25	2.25	25	37	50	..
275	7 50	18.00	3 00		37	50	
276	1.75	5.25	1.25	25	25		.
277	3 25	7.25	1.75	25	25		
278	2.50	6 25	1.50	25	25		.
288½	6.00	9 00	2.00	25	25	25	2 50
289½	9 00	13 00	2.50	25	37	37	3 00
300	3.00	4.00	1.75	25	25	25	.
316	1.00	1.50	.75	12	12		
318	1 25	1 75	75	12	12		
340	15 00	22 00	3 50		50	75	
370	1 50	2 75	1 50	25	25	25	
371	1 75	3 00	1 50	25	25	25	
372	2 00	5 00	1 50	25	25	25	
373	2 50	6 00	1 75	25	25	25	
374	5 50	9 50	2 25	25	37	50	.
375	7 50	14 00	3 00		50	50	
376	1 75	3 75	1 25	25	25		.
377	3 25	6 00	1 75	25	25		
378	2 50	5 00	1 50	25	25		
400	4 00	6 00	1 75	25	37	37	. .
488½	5 50	8 50	2 00	25	25		2 50
489½	8 50	12 50	2 50	25	37		3 00
500	6 50	9 00	2 50	25	37	37	
600	12 00	16 00	3 00		50	75	
650	6 50	4 50	1 75	25	25		
2000	1 00	1 25	.75	25	25		
2100	1 25	1 50	1 00	25	25	25	
2200	1 75	3 00	1 50	25	25	25	
2300	2 00	3 50	1 50	25	25	25	
2400	2 75	4 25	1 75	25	25	25	
4000	1 50	2 00	1 00	25	25		
4600	2 75	5 00	1 50	25	25		

VISES.

"PRENTISS."

Fig. 672.

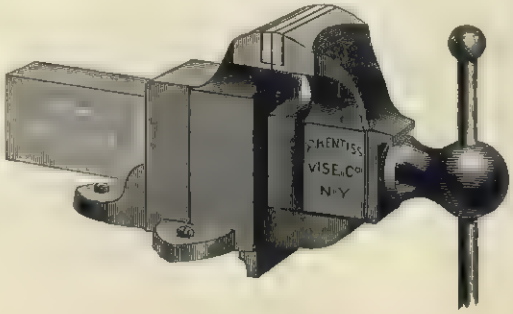


GIPSY.

Designed for common uses, Steel Screw, Welded Steel Jaws.

No. 65. Jaws 2½ inches wide, opens 3 inches, weight 8 lbs..... Price, $1.75
No. 66. Jaws 3½ inches wide, opens 4 inches, weight 14 lbs..... " 2.75
No. 67. Jaws 4 inches wide, opens 6 inches, weight 28 lbs..... " 4.50

Fig. 673.



HEAVY CHIPPING VISE.

No. 58. Heavy Chipping Vise Jaws 8½ inches, opens 12 inches, weight, 275 lbs ....each, $50.00
Swivel Bottom Attachment..... 5.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PORTABLE FORGES.

"STURTEVANT."

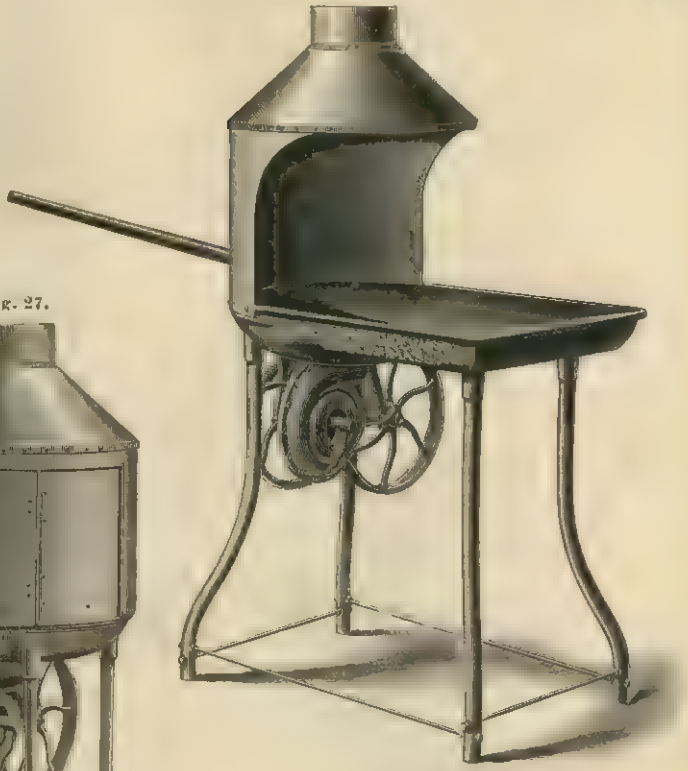
No. 3.

Height of Pan.....34½ inches
Diameter of Pan..... 21 inches
Diameter of Blower....10 inches
Weight..... ..... 140 pounds
Each . $20 00

Fig. 27.

No. 3.

Fig. 28.



Nos. 4 and 5.

No. 4.

Height of Pan.... . ...32½ inches
Diameter of Pan..... ..... 22 x 33 inches
Diameter of Blower..... .. .. 10 inches
Weight . .. . 157 pounds
Each. $20 00

No. 5.

Height of Pan..... 32½ inches
Diameter of Pan... ... . 26 x 38 inches
Diameter of Blower..... ..... 10 inches
Weight,.... .... 173 pounds
Each..... .....$25 00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PORTABLE FORGES.

"STURTEVANT."

For Blast from Independent Blower.

No. 4.

Height of Pan. . . . . 32½ inches
Size of Pan. . . . . 22 x 33 inches
Weight. . . . . 133 pounds
Each. $15 00

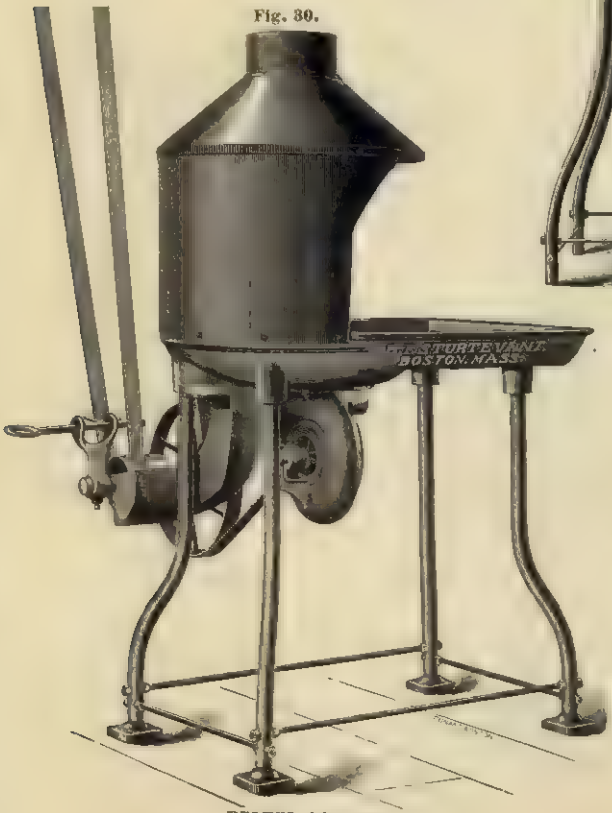
No. 5.

Height of Pan. . . . . 32½ inches
Size of Pan. . . . . 26 x 38 inches
Weight. . . . . 149 pounds
Each $18 00

Fig. 29.

Nos. 4 and 5.

Fig. 30.



BELTED BLOWER.

For Blast from Independent Blower.

BELTED BLOWERS.

No. of Forge.	Height of Pan in Ins.	Size of Pan in Ins.	Diam. of Blower in Ins.	Belted Blower. Wight	Price.
1	34½	21 diameter	10	145	$20 00
2	34½	21 diameter	10	155	20 00
3	34½	21 diameter	10	168	20 00
4	32½	22 x 33	10	185	20 00
5	32½	26 x 38	10	201	25 00

PORTABLE FORGES.

"CYCLONE."

No. O.—Height 30 inches, size of hearth 28x40. Coal box in one end 22 inches long, 8½ inches wide, 6 inches deep. Fan 14 inches, weight 295 pounds. Especially adapted for heavy blacksmith work Has a very large and deep fire place, and powerful blast. Capable of doing the heaviest kind of work. Hood of No. 20 iron, braced on inside with two pieces of ⅜x1⅛ bar iron. Has the stiffest hood found on any Forge made. Patent drop doors and revolving ball tuyere.

Style No. O., with Coal Box and Rest for Iron.....Price, $50 00
Style No. O., with Coal Box, Water Tank and Rest for Iron..... " 54 00
Style No. O., with power attachment extra..... " 10 00

No. 17.—Cyclone Portable Forge, double Ratchet, solid frame, adjustable legs, detachable. Lever Bowl 16x26 inches, Coal Box 14 inches long, 7¾ inches wide, 5½ inches deep. Weight 105 pounds. Price, $27 00

No. 16.—Same as above with half Hood. Weight 110 pounds. Price, $30 00

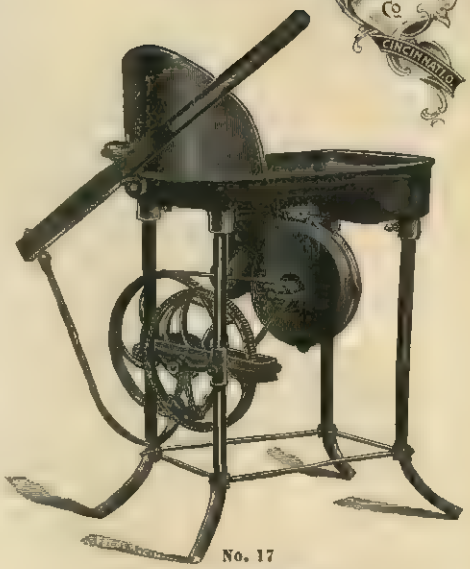
No. 15.—Cyclone Portable Forge, double Ratchet, solid frame, adjustable legs, detachable. Lever Bowl 22x30 inches, Coal Box 5¾ inches deep, Fan 10 inches in diameter, height to top of bowl 29 inches. Weight 160 pounds.....Price, $36 00

No. 14.—Same as above with half Hood. Weight 165 pounds. Price, $40 00

Fig. 31.

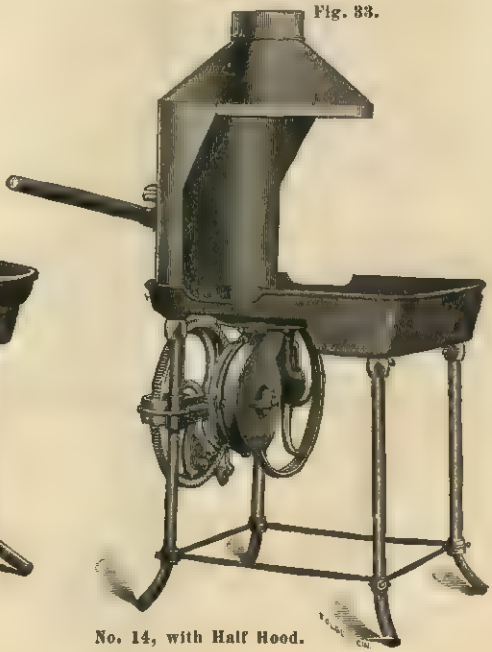
No. 0

Fig. 32.



No. 17

Fig. 33.



No. 14, with Half Hood.

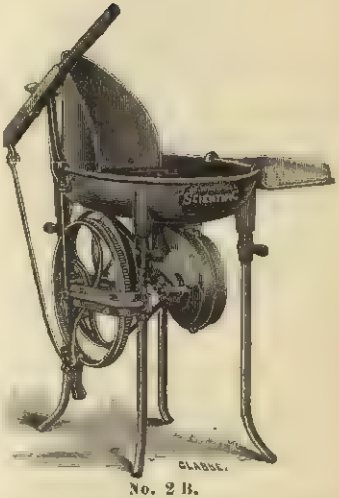
PORTABLE FORGES.

SCIENTIFIC.

No. 2 B Scientific Portable Forge with Shield. Height, to top of Hearth, 29 inches. Fan, 10 inches in diameter. Hearth, 21 x 27 inches. Weight, 145 pounds, each..... ..... $36.00

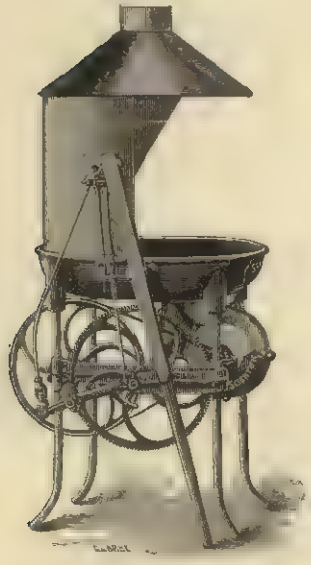
This forge is provided with 4 handles, for convenience in moving it about.

Fig. 84.



No. 2 B.
For Boiler Makers, Iron Bridge and Railroad Work.

Fig. 85.

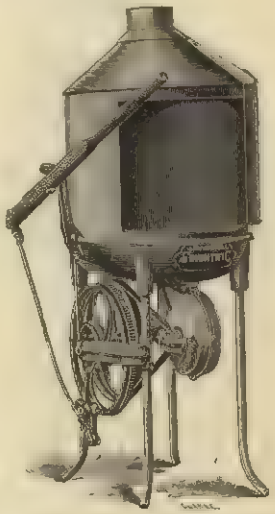


No. 2 A.
For Machinists' Use.

No. 2 A Scientific Portable Forge, with half hood. Height, to top of hearth, 29 inches. Fan, 10 inches. Hearth, 21 x 27 inches. Weight, 150 pounds. Each $40.00

This forge will make a welding heat on 2½ inch iron in 5 to 8 minutes.

Fig. 86.



No. 2 C.
For Locksmiths, Tool Makers, Etc.

No. 2 C Scientific Portable Forge, with closed hood. Height, to top of hearth, 29 inches. Fan, 10 inches. Hearth, 21 x 27 inches. Weight, 155 pounds. Each $42 00

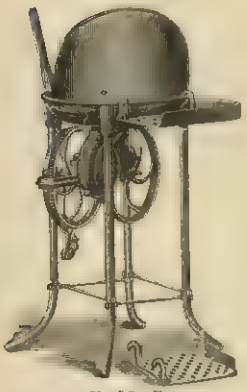
This forge is provided with a closed hood of sheet iron, and also provided with a revolving door for access to the fire. The hood can be closed tight, preventing the escape of sparks, smoke or fumes.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PORTABLE FORGES.

"SCIENTIFIC."

Fig. 37.

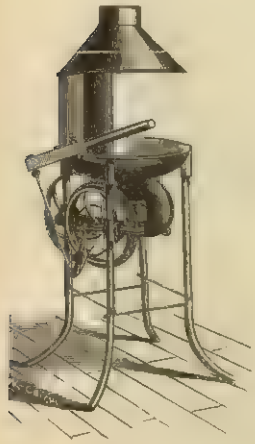


No. 3 B.

For Boiler Makers, Repairers, Miners and Prospectors.

No 3 B.—Scientific Portable Forge with Shield, Height 33 inches, Hearth 18 inches diameter, Fan 8 inches diameter, detachable Lever. Weight 75 pounds..... Each, $24 00
No. 3.—Special, same as above with **10 inch** Fan..... " 27 00

Fig. 38.

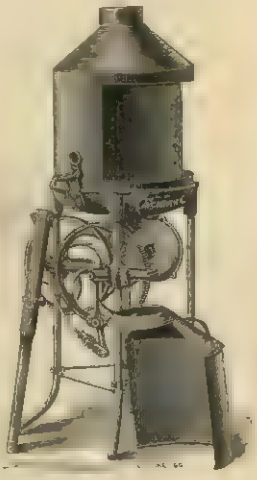


No. 3 A.

For Model makers, Machinists, Die Sinkers, etc

All No. 3 Forges will bring 1 1-2 in. iron to a welding heat in 4 to 5 minutes

Fig. 39.



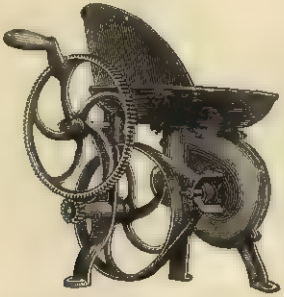
No. 3. C.

For Locksmiths, Tool makers, etc.

No 3 A.—Scientific Portable Forge with Half Hood, height to top of fire place 33 inches, hearth 18 inches diameter, Fan 8 inches diameter, detachable Lever. Weight 80 pounds..... Each, $27 00
No 3.—Special, same as above with **10 inch** Fan..... " 30 00
No 3 C.—Scientific Portable Forge with closed hood, same size and capacity as No 3 A. Weight 85 pounds..... " 30 00
No 3.—Special, same as above with **10 inch** Fan..... " 33 00

PORTABLE FORGES.

Fig. 40.



No. 6 B For Miners and Farmers.

No. 6 Scientific Portable Forge. Height, 15 inches to top of bowl. Bowl, 14 inches diameter. Fan, 8 inches. Weight, 45 pounds.

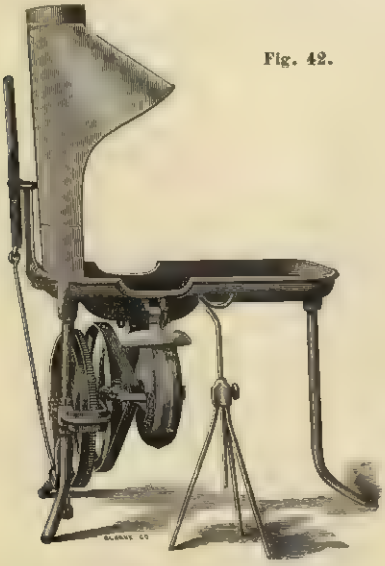
No. 6 A, with half Hood, $18.00 No. 6 B, with Shield, $16.00
No. 6 C, with closed Hood, $20.00

Fig. 41.

No. 9½ Portable Bellows Forge.

For railroad and bridge builders. Size of Hearth, 22 inches diameter Height of Fire Place, 30 inches. Weight 100 pounds. Each.....$30.00

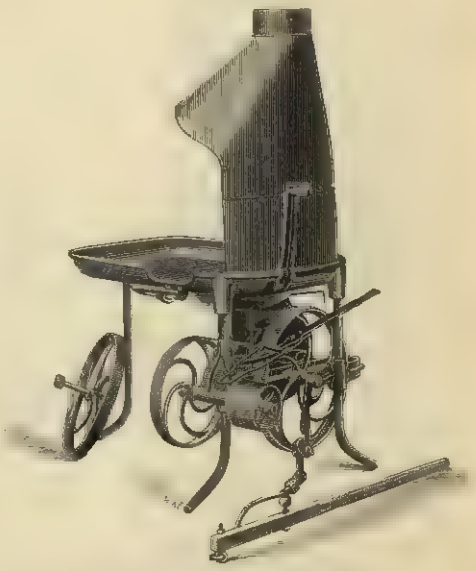
Fig. 42.



No. 1 Blacksmith's Forge.

No. 1 Scientific Portable Blacksmith's Forge. Each.....$50.00

Fig. 43.



No. 1 Forge, with Power Attachment.

No. 1 Scientific Portable Blacksmith's Forge, with Power Attachment ⅛ Each $57.00

Height, 30 inches. Size of Hearth, 28 x 40. Fan, 14 inches. Weight, 270 pounds.
This size is especially adapted for heavy blacksmith work It has a very large and deep fire place and powerful blast, and is capable of doing the heaviest kind of work.

QUEEN CITY SUPPLY CO. CINCINNATI O.

BLACKSMITHS' HAND BLOWERS.

Fig. 44.

Scientific.

"SCIENTIFIC."

The Scientific Blacksmiths' Hand Blowers

Are offered as the only Blower made that is perfect in construction and operation. The Blowers are adapted to the use of Blacksmiths, and are beyond a doubt unapproachable in **ease of operation,** durability of construction and economy of labor and fuel. We claim that the Scientific Blower is a great advantage over the old-fashioned bellows, with its cumbersome and tiresome mode of working.

Scientific Hand Blower, with Tuyere Iron, all complete..... $25.00

Without Tuyere Iron 23.00

Fig. 45.

Cyclone.

"CYCLONE."

By a simple device not found in other makes, the motion of the fan does not cease as soon as the lever is released from the hand, but continues to keep up the blast for some moments, allowing plenty of time for the iron to be manipulated or removed from the fire.

The frame work of the blower is a single piece of gas pipe bent to shape, and can not warp or twist out of shape as would be the case with a common wooden frame, or frame made of pieces of pipe or iron bolted together.

Fan, 14 inches. Weight of Blowers without Tuyere Iron, 140 pounds.

Style No. 1, Blower without Tuyere Iron..... $23.00

Style No. 2, Blower with Tuyere Iron. 25 00

CHICAGO HARDWARE HISTORY

BY HOBART W. MARTIN

The history of the Chicago hardware trade is one with the development of the North-West. It is a history of unexampled progress, and embodies much more than a dry and uninteresting recital of commercial transactions. It has within itself the record of all the city's past, and makes prophecy of much of her future. The same spirit which has founded an empire and redeemed the West from the savages, which has overcome all difficulties and proved steadfast in the face of all adversities, has built up from nothing in one generation a vast business, embracing the whole length and breadth of the land. The hardware trade of Chicago is the record of magnificent opportunity and signal achievement. The real history of the iron trade does not begin much before 1857, when the manufacture of iron was insignificant. There were no iron mines adjacent to the city, nor had the railroads and waterways at that time been completed so as to render the manufacturing industry profitable. However, with the completion of the Illinois canal and the continued growth of overland transportation facilities all lines of business took on a different aspect. With the utilization of the national waterways and the completion of the canal and railroads, Chicago merchants and manufacturers found themselves in a position to wield with prodigious energy those advantages which nature, invention and environment had placed at their disposal.

By means of her railroads and waterways Chicago has held the key to her position between the ore beds of Michigan and the coal fields of Pennsylvania and Illinois. How well these advantages were used, with what energy, foresight and determination her merchants employed them, is matter of common history.

The Chicago iron industry properly dates from 1857, when Cap. Eber B. Weed built the Chicago Rolling Mill on the north branch of the Chicago river. This was the beginning of the North Chicago Rolling Mill Co.

In 1860 there was only one furnace in Illinois manufacturing pig iron. It had a capital of about $25,000 invested. The crude ore utilized in this furnace then amounted to only 4,000 tons per year. Following the North Chicago Rolling Mill Co. came the mills of the Union Steel Co. in 1863 (near Thirty-fifth street and Ashland Ave.) with a capacity of fifty tons of rails per day. The company was incorporated in 1863 as the Union Rolling Mill Co. It must be understood that the above companies were not the first to begin manufacturing, but they were run on a larger scale than any of their predecessors. As early as 1842 the Scoville Iron Works were founded, and C. R Vandercook established the first stove foundry in Chicago the same year, while Andrew Bolter began his hardware manufacturing business in 1856.

The stove foundry of C. R. Vandercook was called the Phœnix Foundry and was located on the north side.

After passing through various changes of management, James L. Collins and Henry C. Burgie became the proprietors in 1857, and so continued. In 1854 the foundry was removed to the southwest corner of Van Buren and Jefferson Sts. The business begun by Andrew Bolter in 1856 was removed in 1858 to West Washington St., near Clinton, and in 1862 was again removed to the corner of Van Buren St. and Fifth Ave. This was in the district destroyed by the great fire of 1871, but the house was at once rebuilt and the business continued

The firm of Horton, Gilmore, McWilliams & Co. is the successor of the oldest hardware house in Chicago, and with few exceptions the oldest business house of any kind in the city. In 1842 William Blair came to Chicago and opened a wholesale and retail hardware store in a frame building at the southeast corner of Dearborn and South Water Sts. In 1844 his brother, Chauncey B. Blair, entered the firm. By this time the business had increased to such proportions as to render it necessary to remove it to more commodious quarters, and a frame building at 75 Lake St. was secured.

In 1846 William Blair bought out his brother's interest and associated with him-

self his brother-in-law, William E. Stinson, the firm name being Blair & Stinson. Mr. Stinson retired a few years later on account of ill health, and the business was removed shortly after to 103 Lake St. The following year Mr. Blair erected the building at 176 Lake St., the site of the present store occupied by Horton, Gilmore, McWilliams & Co. In the spring of 1853 Mr. C. B. Nelson was admitted to partnership, and the firm name was changed to William Blair & Co. The opening of the Illinois Canal in 1848 and the Galena & Chicago Union Railway created an era of greater prosperity.

The firm increased its stock and discontinued the retail business, becoming the first exclusively wholesale hardware house in Chicago and the first to open up a sample room. In the spring of 1852 William Blair and E. G. Hall founded a wholesale iron store on South Water St,, under the firm name of E. G. Hall & Co.

Mr. S. D. Kimbark.

In 1856 Mr. Oliver Belden, a former employee of the firm, was admitted to partnership and continued in the firm until 1870. Mr. Blair withdrew from this firm in 1860, confining his attention to his other business. In 1870 he rebuilt the marble front stores at 179-181 Randolph St., which were destroyed by fire in 1871.

In nowise discouraged, Mr. Blair at once rebuilt on the old location, and in thirty days after the fire had purchased additional ground for a new store, and by October, 1872, a five-story and basement building had been completed and occupied. In 1871 Mr. James M. Horton was admitted to the firm. Various changes have since been made, Mr. Blair having retired and other members having been admitted. The old location is still preserved, the firm name being Horton, Gilmore, McWilliams & Co. The Lake St. elevated railroad has purchased the present site, however, and it is rumored that the firm will soon remove its business to other and even more desirable quarters. Returning to the firm of E. G. Hall & Co., organized in 1852, a further account is necessary to bring the connection down to its present successor, Mr. S. D. Kimbark. At the time of the organization of the firm Mr. S. D. Kimbark was the bookkeeper.

Mr. Kimbark subsequently became a member of the firm by purchase, and the name was changed to Hall, Kimbark & Co., becoming one of the best-known hardware houses in the West. In 1876 Mr. S. D Kimbark purchased the interest of the other partners, since which time he has been the sole proprietor of the business. The original house carried nothing but iron and steel. During the past thirty years, however, various other lines have been added, such as heavy hardware, wagon and carriage materials, blacksmith's supplies, carriage woodwork, etc., each one being a business in itself.

In an interview with Mr. Horton, of Horton, Gilmore, McWilliams & Co., that gentleman made the remark that one of the early business houses of William Blair & Co. occupied the first 20 feet of the firm's present space, pointing out the portion of the area originally occupied. In view of the manner in which the business has grown, and through all the years since its inception it has clung to its early starting place, this remark was especially interesting. The firm of William Blair & Co., as has been said, originally did a general wholesale and retail business, but was early changed into an exclusively wholesale concern. The present successors have kept up the traditions of the founders, and as the growth of the city and of the West has continued the business has been increased in proportion.

During the conversation Mr. Horton remarked that from 1866 to 1871 there were more jobbers in Chicago than now. The

reason assigned for this change lies in the fact that the business has increased so enormously since the fire; the territory covered has been so large, and the consequent expense so great, that the rule of the survival of the fittest has prevailed. The small men have been crowded to the wall by those possessing more enterprise and capital.

Years ago the manufacturers did not compete with the jobbers. An incident was cited where such competition was tried. An eastern manufacturing firm opened a retail store a good many years ago on one of the principal streets. The jobbers thereupon

agreed between themselves to buy no goods of the firm until its retail store should be given up. This agreement was carried out with such effect that the offending firm was eventually compelled to assign. Now, however, a different condition of things prevails, for Lake St. is filled with stores representing eastern manufacturing companies. Being asked how this competition was overcome or met by the jobbers, the reply was that all the jobbers had to do was to purchase from firms which, not having a Chicago agency, could afford, by a system of rebates to deduct from their prices the percentage which a Chicago agency would cost them, thus enabling their customers to sell as cheaply as any one.

As regards the general aspect of business in the West it has, of course, increased enormously in the past 25 or 30 years. Formerly the trade extended only to the Mississippi, and goods were bought wholly in the East. Now, however, Chicago has her own manufacturing concerns, and her hardware trade is hardly limited to the confines of the continent.

The present firm of Hibbard, Spencer, Bartlett & Co. was founded in March, 1855, the firm name being Tuttle, Hibbard & Co. The place of business selected was on South Water St., five doors east of Dearborn St. Mr. William G. Hibbard began his career in the hardware business as a clerk in the employ of William Blair & Co., that fruitful source from whence sprung so many of Chicago's leading hardware men. The new business prospered in its location on South Water St. for just two years, when in March, 1857, the whole property was destroyed by fire. Nothing daunted, the young men again gathered their resources together and began anew, for three years occupying a store at 32 Lake St., where fortune again smiled upon them. These quarters, however, were changed in 1862 for more desirable ones at

the southeast corner of Lake and State Sts.

In January, 1862, F. F. Spencer and William G. Hibbard bought out the goods and business of Tuttle, Hibbard & Co. The new firm was first known as Hibbard & Spencer, but shortly after some employes of the firm were given an interest in the business, and the firm name was changed to Hibbard, Spencer & Co.

In 1867 it was found necessary again to remove the business to a different location, that fixed upon being at 92 94 Michigan Ave., between Lake and Randolph Sts. Continuing in this location until 1871, the stock was again destroyed in the great fire of that year. As soon as possible a new stock was purchased and placed in a temporary frame building on the Lake front.

In June, 1872, the permanent buildings on Lake St. were completed, and the firm moved in, using at first Nos. 30 and 32 Lake, but, rapidly increasing their stock, they soon occupied six stores in the block, each 25 x 142 feet, five stories and basement. In 1881 the company was incorporated under the name of Hibbard, Spencer, Bartlett & Co.

The officers were elected then as follows: President, William G. Hibbard; vice-president, F. F. Spencer; secretary, A. C. Bartlett; and directors, James W. Nye and Charles H. Conover.

In 1890 the firm suffered a severe loss in the death of Mr. F. F. Spencer, who, during his lifetime, had been one of the foremost men not only in building up the prestige of the firm, but also one of the foremost in the development of the city. A public-spirited citizen, his death was deplored by all, and by none more than by his associates and friends in his chosen business.

The firm, in addition to its stores and offices on Michigan Ave. and Lake St., has large brick warehouses on the North Side where much of the heavy materials are kept such as nails, tin plate, etc.; cars being run into the building to load or unload. The one specialty in which the house takes particular pride is the business-like method pervading the establishment and animating all its transactions.

The present officers of the company are as follows:

William G. Hibbard, president and treasurer; A. C. Bartlett, vice-president; C. H. Conover, secretary; E. G. Clark, Cashier; directors, William G. Hibbard, A. C. Bartlett, C. H. Conover, E. G. Clark, H. J. Sawe, J. J. Charles, A. M. Graves.

One of the oldest and most reliable of the Chicago hardware firms is that of Parkhurst & Wilkinson, 148 to 164 Kinzie St. This house was organized in 1865 by Mr. J. J. Parkhurst, and in 1867 Mr. Wilkinson purchased an interest in the business, the firm name at that time becoming Parkhurst & Wilkinson. The first location of the business was at 46 River St., where it remained five years, and then was removed to 91 Michigan Ave. In the great fire of 1871 the house and entire stock was destroyed. Those were the days when men's courage was high, and not even the elements were able to defeat them. Plans were at once laid for starting in anew, a location at 171 and 173 Canal St. was secured, and the business was reopened. This location was held for three years, when the business was again removed to 184 and 190 Lake St., continuing there for four years and then moving to its present location at 148 to 164 Kinzie St., where it has remained for the past twelve years. The firm carries a full line of general hardware, wagon and carriage supplies, bicycle materials, railroad supplies, etc. The bicycle department is a comparatively recent addition to the business. The place of business is conveniently located in proximity to the leading waterway of the city, and this fact, no doubt, contributes not a little to the advantage of the business.

Jones & Laughlin, Ltd., is a Pittsburg house having large branch offices, stores and warerooms in Chicago. The Chicago branch is located in spacious quarters on the west side just across the river, on the corner of Canal and Lake Sts. A glance from the most casual observer would convince him that here is indeed an institution of such solidity and magnitude as to be remarkable even in these days of large fortunes and substantial commerce. The building is five stories in height with a basement and covers the entire block.

Jones & Laughlin, Ltd., deal in chains, beams, sheet plates, anchors, tees, angles, shafting, fittings, railroad supplies, girders, channels, etc., etc. The Chicago branch has been here many years, has been twice burned out and rebuilt, the second time in

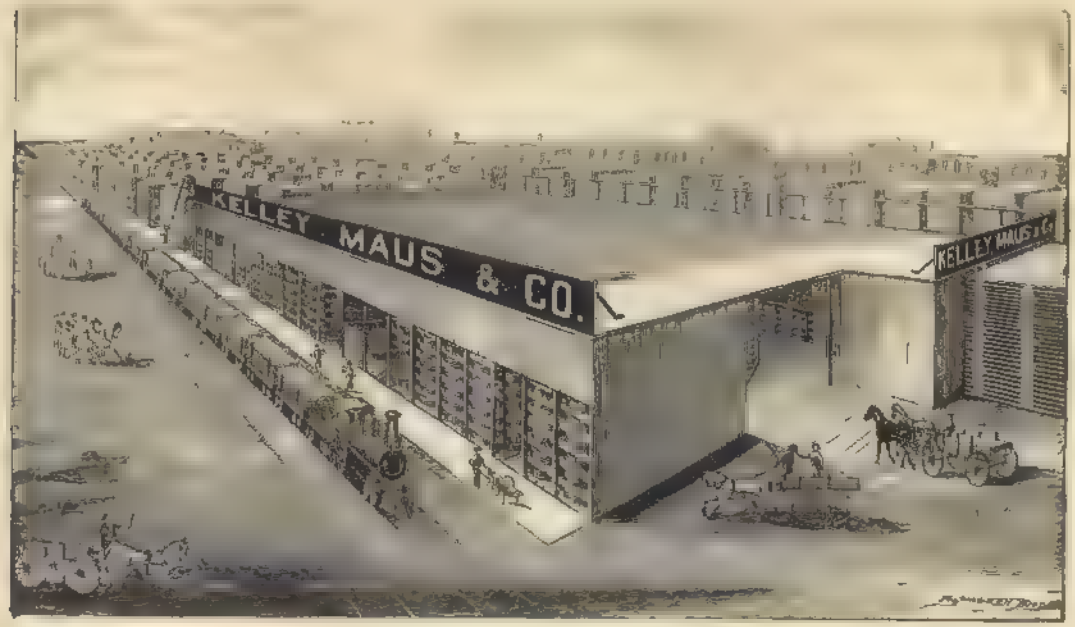
1871, and has had a number of different locations. The Chicago branch was founded in 1857, and the first place of business was located on South Water St. From thence it was moved to 42, 44 and 46 River St., thence to the corner of Canal and Jackson Sts. From this place the business was again moved to the corner of Lake and Canal Sts., its present and permanent location.

The main house in Pittsburg was founded earlier than 1857. When the Chicago branch was first organized Thomas Kirk, Sr., was appointed manager. Mr. Kirk was succeeded by Thomas M. Jones. In 1878 Mr. Jones retired, and Joseph M. Lorimer was appointed to fill the position. Mr. Lorimer died Aug. 24, 1894, and the present manager, Mr. David N. Barker, succeeded him. The growth of the house has been steady and substantial. The only change in the nomenclature of the firm has been from Jones & Laughlin to the corporate form, Jones & Laughlin, Ltd. This is one of the houses which has made history, and can look back with pride upon the important place it has taken in the enduring growth of the city and of the west. My only regret on leaving the courteous presence of Manager Barker was that more data was not at hand concerning so interesting a subject.

Cribben, Sexton & Co., were established 1867 by J. A. and T. S. Sexton, to do a general hardware and stove business. They located at 178 Lake St. In 1871, in common with almost every one else in Chicago at that time, the house and stock were destroyed by fire

In 1872 Messrs. J. A. Sexton and Henry Cribben for the Rochester Co-operative Foundry Co., revived the business and put it again in operation. In 1873 Mr. Cribben bought out the interest of the Co-operative Foundry Co., and with Mr. Sexton established the house at 157 East Kinzie St. Here they remained until 1874, when they removed to 75 and 77 Lake St.

The firm is one of the best known in the West, and indeed the writer has recollection of the days of his infancy when he used to spell out the name of Cribben, Sexton & Co. on the parlor stove. The *personnel* of the firm has remained about the same. W. H. Cribben was admitted to partnership Jan. 1, 1879, and C. T. Boal on Jan. 1, 1880.

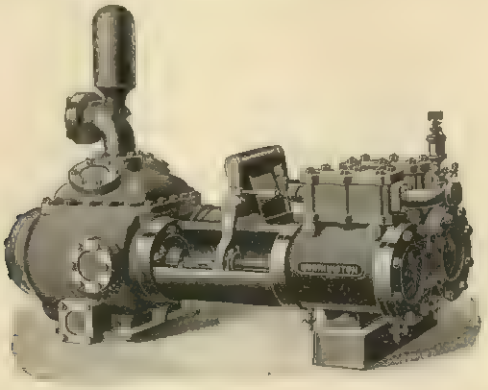


Kelley, Maus & Company's Ch[illegible]

REGULAR PATTERN WORTHINGTON STEAM PUMP.

The Worthington Pump of regular pattern has two double-acting plungers, or pistons, and is fitted with water valves of rubber or metal, as required. These pumps are designed for *boiler feeding, fire, hydraulic elevator and general service*, where the water pressure does not exceed 150 lbs.

The stated capacities of the pumps given below are based upon a piston travel of 50 to 150 feet per minute. In emergency this speed can be considerably increased.



(Cut represents Regular Pattern Worthington Pump. Size, 10 x 6 x 10.)

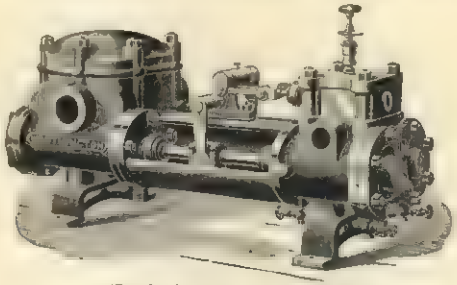
Diameter of Steam Cylinders	Diameter of Water Plungers	Length of Stroke	Displacement in Gallons per Stroke of ONE Plunger	Proper Strokes per Minute of ONE Plunger, Varying with Kind of Work and Pressure	Gallons Delivered per Minute by BOTH Plungers at Stated Number of Strokes.	Diameter of Plunger Required in any Single Cylinder Pump to do the same Work at same Speed	SIZES OF PIPES FOR SHORT LENGTHS To be Increased as Length Increases			
							Steam Pipe	Exhaust Pipe	Suction Pipe	Discharge Pipe
2	1¼	2¾	.013	100 to 300	2 to 7	1⅝	⅜	1	1	¾
3	2	3	.04	100 to 250	8 to 20	2⅜	½	1¼	1	1
4½	2¾	4	.10	100 to 200	20 to 40	4	¾	1½	1½	1¼
5¼	3¼	5	.20	100 to 200	40 to 80	5	¾	1½	1½	1¼
6	4	6	.33	100 to 150	70 to 100	5¾	1	1½	1½	1½
7½	4¼	6	.42	100 to 150	85 to 125	6⅝	1¼	2	1½	1½
7½	5	6	.51	100 to 150	100 to 150	7	1½	2	2	1½
7½	4½	10	.69	75 to 125	100 to 170	6⅝	1⅝	2	2	1½
9	5¾	10	.93	75 to 125	135 to 230	7½	2	2½	2	1½
10	6	10	1.22	75 to 125	180 to 300	8½	2	2½	2	2
10	7	10	1.66	75 to 125	245 to 410	9⅝	2	2½	2	2
12	7	10	1.66	75 to 125	245 to 410	9⅝	2½	3	2	2
11	7	10	1.66	75 to 125	245 to 410	9⅝	2½	3	2	2
12	8½	10	2.45	75 to 125	365 to 610	12	2½	3	2	2
14	8½	10	2.45	75 to 125	365 to 610	12	2½	3	2	2
16	8½	10	2.45	75 to 125	365 to 610	12	2½	3	2	2
18¼	8½	10	2.45	75 to 125	365 to 610	12	3	3½	2	2
20	8½	10	2.45	75 to 125	365 to 610	12	4	5	2	2
12	10¼	10	3.57	75 to 125	530 to 890	14¼	2½	3	2	2
14	10½	10	3.57	75 to 125	530 to 890	14¼	2½	3	2	2
16	10½	10	3.57	75 to 125	530 to 890	14¼	2½	3	2	2
18¼	10½	10	3.57	75 to 125	530 to 890	14¼	3	3½	2	2
20	10½	10	3.57	75 to 125	530 to 890	14¼	4	5	2	2
14	12	10	4.89	75 to 125	730 to 1,220	17	2½	3	2	2
16	12	10	4.89	75 to 125	730 to 1,220	17	2½	3	2	2
18¼	12	10	4.89	75 to 125	730 to 1,220	17	3	3½	2	2
20	12	10	4.89	75 to 125	730 to 1,220	17	4	5	2	2
18¼	14	10	6.66	75 to 125	990 to 1,660	19¾	3	3½	2	2
20	14	10	6.66	75 to 125	990 to 1,660	19¾	4	5	2	2
17	10	15	5.10	50 to 100	510 to 1,020	14	3	3½	2	2
17	11	15	6.20	50 to 100	620 to 1,240	15¾	3	3½	2	2
20	11	15	6.20	50 to 100	620 to 1,240	15¾	4	5	2	2
20	12	15	7.84	50 to 100	780 to 1,460	17	4	5	2	2
20	15	15	11.47	50 to 100	1,145 to 2,290	21	.....	.....	.....	.....
25	15	15	11.47	50 to 100	1,145 to 2,290	21	.....	.....	.....	.....

PRICES ON APPLICATION.

A slight additional charge is made when pumps are fitted with brass plungers and piston rods, and for bed-plates.

WORTHINGTON BOILER FEED PUMPS.

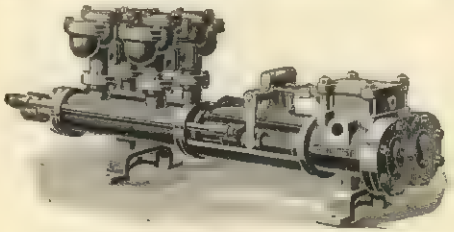
While nearly all of the Regular Pattern and Pressure Pumps given in the lists on pages 55 and 60 may be used for boiler feeding, yet the following sizes are selected as being those best proportioned for that particular service.



(Regular Pattern. Size, 6 x 4 x 6.)

REGULAR PATTERN.

Diameter of Steam Cylinders	Diameter of Water Plungers.	Length of Stroke	Horse Power of Boiler, based on 30 pounds of water per hour which the pump will supply with ease	Diameter of Plunger required in any single cylinder pump to do the same work at same speed.	SIZES OF PIPES FOR SHORT LENGTHS. To be increased as length increases. Steam Pipe	Exhaust Pipe	Suction Pipe.	Discharge Pipe.	PRICE.
2	1½	2½	35	1⅝	¾	¾	1	¾	$40 00
3	1⅞	3	60	2⅛	¾	¾	1¼	1	55 00
4½	2⅝	4	150	4	¾	¾	2	1½	85 00
5¼	3¼	5	300	5	¾	1¼	2½	1½	115 00
6	4	6	400	5⅝	1	1½	3	2	140 00
7½	4½	6	500	6⅜	1½	2	4	3	210 00
7½	4½	10	700	6⅜	1½	2	4	3	330 00
9	5¼	10	900	7⅛	2	2½	4	3	365 00
10	6	10	1200	8½	2	2½	5	4	400 00



(Pressure Pattern. Size, 6 x 3¼ x 6.)

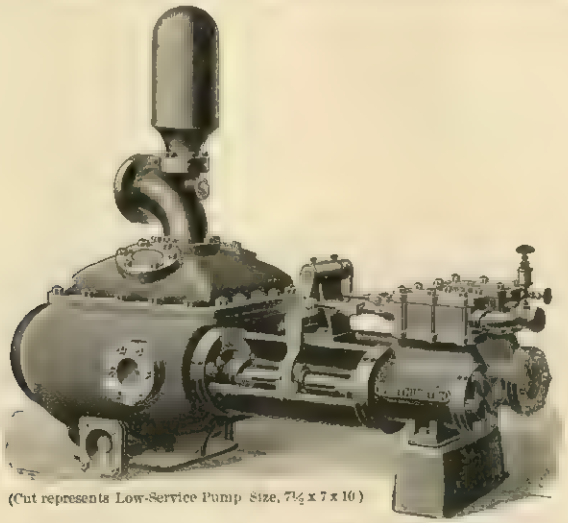
PRESSURE PATTERN.

Diameter of Steam Cylinders	Diameter of Water Plungers.	Length of Stroke.	Horse Power of Boiler based on 30 pounds of water per hour which the pump will supply with ease	Diameter of Plunger required in any single cylinder pump to do the same work at same speed.	SIZES OF PIPES FOR SHORT LENGTHS. To be increased as length increases. Steam Pipe.	Exhaust Pipe	Suction Pipe.	Discharge Pipe.	PRICE.
4½	2	4	125	3½	¾	¾	1½	1½	$140 00
5¼	3	5	225	4½	¾	1½	2	1½	200 00
6	3½	6	300	5	1	1½	2½	2	225 00
7½	4	6	400	5⅝	1½	2	3	2½	275 00
7½	4½	10	600	6	1½	2	4	3	510 00
10	5	10	1000	7½	2	2½	4	3	540 00

THE WORTHINGTON LOW OR TANK SERVICE PUMP.

These machines were designed for use in connection with railroad water stations, oil tanks, oil refineries, and other places where fluid is to be raised to a moderate height with ordinary steam pressure. See other pages for pumps and boilers combined, suitable for this service.

These patterns are of the same general form and interior construction as regular Pressure Pumps, but have plungers or water pistons nearly or quite the diameter of their steam pistons. They cannot, therefore, feed their own boilers, but can be fitted at small additional cost with an "end feed" attached to the end of one of the water cylinders. In an emergency the speed of the pumps may be considerably increased beyond the figures stated in the list.



(Cut represents Low-Service Pump Size, 7½ x 7 x 10)

Diameter of Steam Cylinders	Diameter of Water Plungers.	Length of Stroke	Displacement in Gallons per stroke of one Plunger	Proper Strokes per Minute of one Plunger Varying with Kind of Work and Pressure.	Gallons Delivered per Minute by both Plungers at Stated Number of Strokes	Diameter of Plunger Required in any single Cylinder Pump to do the Same Work at Same Speed	SIZES OF PIPES FOR SHORT LENGTHS. To be Increased as Length Increases			
							Steam Pipe	Exhaust Pipe	Suction Pipe	Discharge Pipe
4½	3¾	4	.20	100 to 200	40 to 80	5¾	1	2½	2½	1½
5½	4¾	5	.38	100 to 150	75 to 110	6¾	1¼	1½	3	2
6	5¼	6	.57	100 to 150	180 to 195	8¼	1	1½	4	2½
6	7½	6	1.14	100 to 150	225 to 340	10½	1	1½	6	5
7½	7½	6	1.14	100 to 150	225 to 340	10½	1¼	2	6	5
6	8½	6	1.47	100 to 150	295 to 440	12	1	1½	6	5
7½	8½	6	1.47	100 to 150	295 to 440	12	1¼	2	6	5
7½	6	10	1.22	75 to 125	180 to 300	8¾	1½	2	5	4
7½	7	10	1.66	75 to 125	245 to 410	9⅞	1½	2	6	5
7½	8½	10	2.45	75 to 125	365 to 610	12	1½	2	6	5
9	8½	10	2.45	75 to 125	365 to 610	12	2	2½	6	5
7½	10¾	10	3.57	75 to 125	530 to 890	14¾	1½	2	8	7
10	10¾	10	3.57	75 to 125	530 to 890	14¾	2	3½	8	7
9	12	10	4.89	75 to 125	730 to 1,220	17	2	2½	10	8
12	12	10	4.89	75 to 125	730 to 1,220	17	2½	3	10	8
7½	14	10	6.66	75 to 125	990 to 1,660	19¾	1½	2	12	10
10	14	10	6.66	75 to 125	990 to 1,660	19¾	2	3½	12	10
12	14	10	6.66	75 to 125	990 to 1,660	19¾	2½	3	12	10
14	14	10	6.66	75 to 125	990 to 1,660	19¾	2½	3	12	10
16	14	10	6.66	75 to 125	990 to 1,660	19¾	2½	3	12	10
10	15	15	11.47	50 to 100	1,145 to 2,290	21	.....	.....	...	...
12	15	15	11.47	50 to 100	1,145 to 2,290	21				
14	15	15	11.47	50 to 100	1,145 to 2,290	21				
17	15	15	11.47	50 to 100	1,145 to 2,290	21				
17	17	15	14.71	50 to 100	1,470 to 2,940	24				
20	17	15	14.74	50 to 100	1,470 to 2,940	24	.....	.....	...	

PRICES ON APPLICATION.

A slight additional charge is made when pumps are fitted with brass plungers and piston rods. An extra charge is also made for bed-plates.

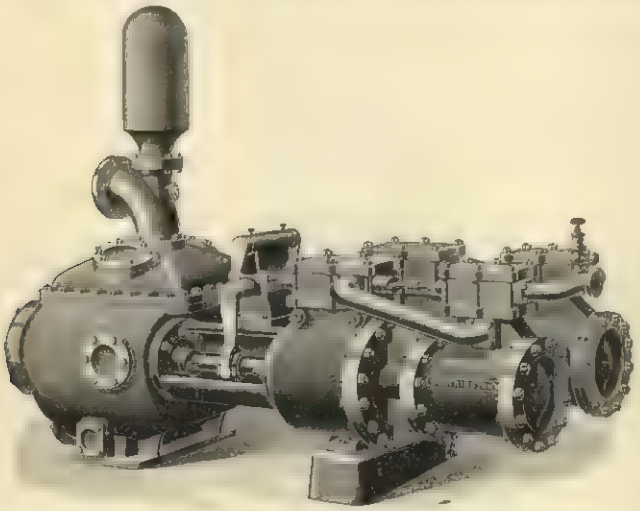
THE WORTHINGTON COMPOUND STEAM PUMP.

In the arrangement of steam cylinders here employed the steam is used expansively, which cannot be done in the ordinary form. Having exerted its force through one stroke, upon the smaller steam piston, it expands upon the larger during the return stroke, and operates to drive the piston in the other direction. This is, in effect, the same thing as using a cut-off on a crank engine, only with the great advantage of uniform and steady action upon the water.

Compound cylinders are recommended in any service where the saving of fuel is an important consideration. In such cases their greater first cost is fully justified, as they require 30 to 33 per cent. less coal than any high-pressure form, on the same work.

On the larger sizes a condensing apparatus is often added, thus securing the highest economical results.

When required, the speed of the pumps may be considerably increased beyond the figures stated in the list.



(Cut represents Compound Pump. Size, 14 & 20 x 12 x 10.)

Diameter of Steam Cylinders.	Diameter of Water Plungers.	Length of Stroke.	Displacement in Gallons per Stroke of ONE Plunger.	Proper Strokes per Minute of ONE Plunger Varying with Kind of Work and Pressure.	Gallons Delivered per Minute by BOTH Plungers at Stated Number of Strokes.	Diameter of Plunger Required in any Single Cylinder Pump to do the Same Work at Same Speed.	SIZES OF PIPES FOR SHORT LENGTHS. To be Increased as Length Increases. Steam Pipe.	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.
8 & 12	7	10	1.66	75 to 125	245 to 410	9⅞	2	3	6	5
8 & 12	8½	10	2.45	75 to 125	365 to 610	12	2	3	6	5
10 & 16	8½	10	2.45	75 to 125	365 to 610	12	2	3	6	5
12 & 18½	8½	10	2.45	75 to 125	365 to 610	12	2½	3¼	6	5
14 & 20	8½	10	2.45	75 to 125	365 to 610	12	2¾	5	6	5
8 & 12	10½	10	3.57	75 to 125	530 to 890	14½	2	3	8	7
10 & 16	10½	10	3.57	75 to 125	530 to 890	14½	2	3	8	7
12 & 18½	10½	10	3.57	75 to 125	530 to 890	14½	2½	3¼	8	7
14 & 20	10½	10	3.57	75 to 125	530 to 890	14½	2¾	5	8	7
8 & 12	12	10	4.89	75 to 125	730 to 1,220	17	2	3	10	8
10 & 16	12	10	4.89	75 to 125	730 to 1,220	17	2	3	10	8
12 & 18½	12	10	4.89	75 to 125	730 to 1,220	17	2½	3¼	10	8
14 & 20	12	10	4.89	75 to 125	730 to 1,220	17	2¾	5	10	8
10 & 16	14	10	6.66	75 to 125	990 to 1,660	19¾	2	3	12	10
12 & 18½	14	10	6.66	75 to 125	990 to 1,660	19¾	2½	3¼	12	10
14 & 20	14	10	6.66	75 to 125	990 to 1,660	19¾	2¾	5	12	10
12 & 17	10	15	5.10	50 to 100	510 to 1,020	14	2½	3¼	8	7
14 & 20	10	15	5.10	50 to 100	510 to 1,020	14	2¾	5	8	7
12 & 17	11	15	6.20	50 to 100	620 to 1,240	15½	2½	3¼	10	8
14 & 20	11	15	6.20	50 to 100	620 to 1,240	15½	2¾	5	10	8
14 & 20	12	15	7.34	50 to 100	730 to 1,460	17	2¾	5	12	10
12 & 17	15	15	11.47	50 to 100	1,145 to 2,290	21				
14 & 20	15	15	11.47	50 to 100	1,145 to 2,290	21				
16 & 25	15	15	11.47	50 to 100	1,145 to 2,290	21				
14 & 20	17	15	14.74	50 to 100	1,470 to 2,940	24				
18¼ & 29	16	18	15.66	40 to 75	1,253 to 2,345	22⅝				

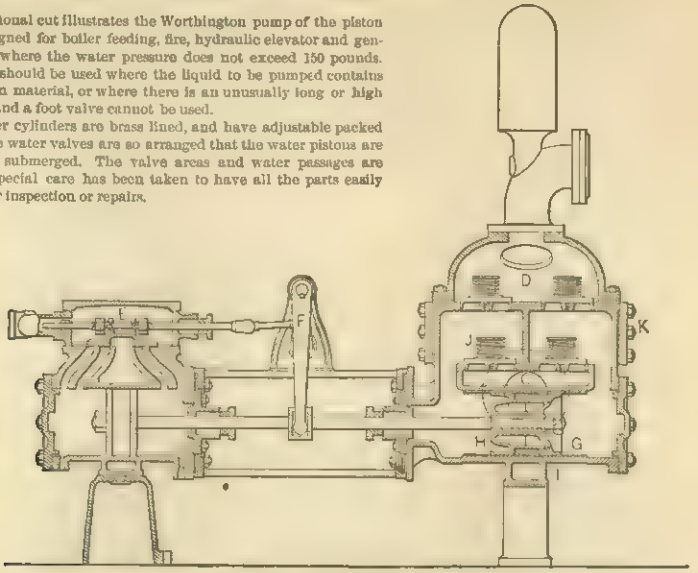
PRICES ON APPLICATION.

A slight additional charge is made when pumps are fitted with brass plungers and piston rods, and also for bed plates.

THE WORTHINGTON PISTON PUMP—For General Service.

This sectional cut illustrates the Worthington pump of the piston pattern, designed for boiler feeding, fire, hydraulic elevator and general service where the water pressure does not exceed 150 pounds. This pattern should be used where the liquid to be pumped contains grit or foreign material, or where there is an unusually long or high suction lift, and a foot valve cannot be used.

The water cylinders are brass lined, and have adjustable packed pistons. The water valves are so arranged that the water pistons are at all times submerged. The valve areas and water passages are large, and special care has been taken to have all the parts easily accessible for inspection or repairs.



Sectional View.

Diameter of Steam Cylinders	Diameter of Water Plungers	Length of Stroke	Displacement in Gallons per Stroke of One Plunger.	Proper Strokes per Minute of ONE Plunger Varying with Kind of Work and Pressure	Gallons Delivered per Minute by BOTH Plungers at Stated Number of Strokes	Diameter of Plunger Required in Any Single Cylinder Pump to do the Same Work at Same Speed.	SIZES OF PIPES FOR SHORT LENGTHS To be Increased As Length Increases. Steam Pipe.	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.
2	1¼	2¾	.013	100 to 300	2 to 7	1⅝	¾	1	1	¾
3	2	3	.04	100 to 250	8 to 20	2⅜	¾	1	1¼	1
4	3	4	.10	100 to 200	20 to 30	4	1	1¼	2	1¼
5¼	3¼	5	.20	100 to 200	40 to 80	5	1¼	1½	2½	1½
6	4	6	.33	100 to 150	70 to 100	5⅝	1	1½	3	2
7¼	4¾	6	.42	100 to 150	85 to 125	6⅝	1¼	2	4	2
7½	5	6	.51	100 to 150	100 to 150	7	1½	2	4	3
7½	3¾	10	.47	75 to 125	70 to 120	5¼	1½	2	4	4
7½	4	10	.54	75 to 125	80 to 135	5⅝	1½	2	4	4
9	4	10	.54	75 to 125	80 to 135	5⅝	2	2½	4	4
7½	4½	10	.69	75 to 125	100 to 170	6⅝	1½	2	4	4
9	4½	10	.69	75 to 125	100 to 170	6⅝	2	2½	4	4
10	4½	10	.69	75 to 125	100 to 170	6⅝	2	2½	4	4
10	5	10	.85	75 to 125	125 to 200	7	2	2½	5	5
9	5¼	10	.93	75 to 125	135 to 230	7¼	2	2½	5	5
10	5¼	10	.93	75 to 125	135 to 230	7¼	2	2½	5	5
12	5¼	10	.93	75 to 125	135 to 230	7¼	2½	3	6	5
10	6	10	1.22	75 to 125	180 to 300	8½	2	2½	6	5
12	6	10	1.22	75 to 125	180 to 300	8½	2½	3	6	5
14	6	10	1.22	75 to 125	180 to 300	8½	2½	3	6	5
10	7	10	1.66	75 to 125	245 to 410	9⅞	2	2½	6	6
12	7	10	1.66	75 to 125	245 to 410	9⅞	2½	3	6	6
14	7	10	1.66	75 to 125	245 to 410	9⅞	2½	3	6	6
12	7½	10	1.91	75 to 125	285 to 480	10½	2½	3	6	6
14	7½	10	1.91	75 to 125	285 to 480	10½	2½	3	6	6
16	7½	10	1.91	75 to 125	285 to 480	10½	2½	3	6	6
16	8	10	2.17	75 to 125	300 to 540	11¼	2½	3	6	6
12	8	10	2.45	75 to 125	365 to 610	12	2½	3	6	6
14	8½	10	2.45	75 to 125	365 to 610	12	2½	3	6	6
16	8½	10	2.45	75 to 125	365 to 610	12	2½	3	6	6
18	8½	10	2.45	75 to 125	365 to 610	12	3	3½	6	6
20	8½	10	2.45	75 to 125	365 to 610	12	4	5	6	6
14	9½	10	2.90	75 to 125	400 to 700	13	2½	3	8	7
16	9½	10	2.90	75 to 125	400 to 700	13	2½	3	8	7
18½	9½	10	2.90	75 to 125	400 to 700	13	3	3½	8	7
8	10	10	3.40	75 to 125	460 to 790	15	1	2	8	7

PRICES ON APPLICATION.

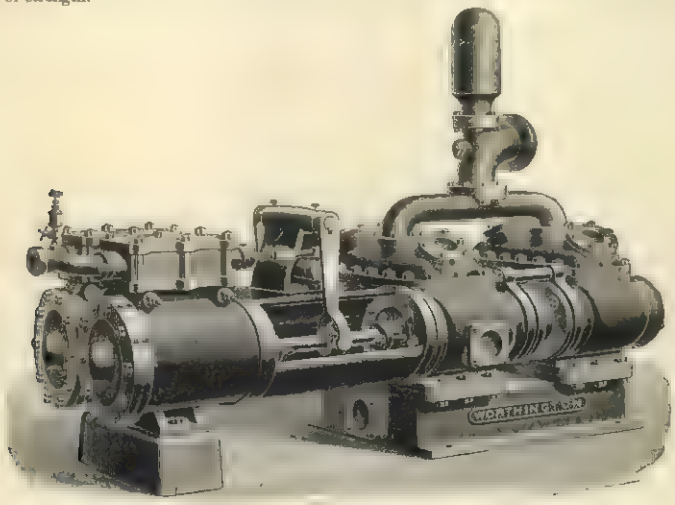
A slight additional charge is made when pumps are fitted with brass pistons and piston rods. An extra charge is also made for belt pulleys. To designate these sizes, give the diameters of steam cylinders and water pistons and length of stroke.

Besides the combination of the above list, a large number of other sizes and combinations can be supplied to meet the requirements of any particular service.

THE WORTHINGTON PACKED PLUNGER PUMP.

On especially severe work, where heavy water pressure, combined with grit, is encountered, the arrangement for exterior adjustable packing employed in the pattern of PACKED PLUNGER PUMP, shown in cut below, is considered preferable to any other system.

All our pumps of large capacity can be fitted with a packed plunger at additional charge. The pumps are made to withstand 200 pounds per square inch water pressure. The patterns are so subdivided that the rupture from any cause, of any one part, only necessitates the renewal of a comparatively small casting. On account of these important modifications, the cost of this pump is of necessity somewhat greater than that of the regular pattern, but knowing that wherever the selection of the packed plunger form is advisable, the service is of such severe character as to call for the best obtainable workmanship and design, no expense has been spared to add to its efficiency or strength.



(Worthington Packed Plunger Pump. Size, 14 x 7 x 10.)

Diameter of Steam Cylinders	Diameter of Water Plungers.	Length of Stroke	Gallons Delivered per Minute at Ordinary Speed	Diameter of Plunger Required in any Single Cylinder Pump to do the Same Work at Same Speed.	SIZES OF PIPES FOR SHORT LENGTHS. To be Increased as Length Increases			
					Steam Pipe.	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.
12	7	10	335	9⅞	2½	3	6	5
14	7	10	335	9⅞	2½	3	6	5
16	7	10	335	9⅞	2½	3	6	5
18½	7	10	335	9⅞	3	3½	6	5
14	8½	10	490	12	2½	3	6	5
16	8½	10	490	12	2½	3	6	5
18½	8½	10	490	12	3	3½	6	5
20	8½	10	490	12	4	5	6	5
14	10¼	10	700	14	2½	3	8	7
16	10¼	10	700	14	2½	3	8	7
18½	10¼	10	700	14	3	3½	8	7
20	10¼	10	700	14	4	5	8	7
16	12	10	980	17	2½	3	10	8
18½	12	10	980	17	3	3½	10	8
20	12	10	980	17	4	5	10	8
12	7	15	400	9⅞	2½	3	6	5
14	7	15	400	9⅞	2½	3	6	5
17	7	15	400	9⅞	3	3½	6	5
14	8½	15	600	12	2½	3	6	5
17	8½	15	600	12	3	3½	6	5
20	8½	15	600	12	4	5	6	5
17	10¼	15	850	14¾	3	3½	8	7
20	10¼	15	850	17	4	5	8	7
17	12	15	1175	17	3	3½	10	8
20	12	15	1175	17	4	5	10	8

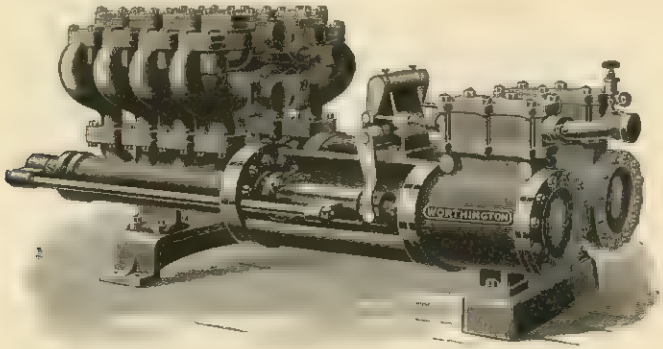
PRICES ON APPLICATION.

An additional charge is made when pumps are fitted with brass plungers and piston rods.

THE WORTHINGTON PRESSURE PUMP.

This pattern of pump is designed for use in connection with hydraulic presses of all kinds. Also, for oil pipe lines, mining purposes, and such services as require the delivery of liquids under heavy pressures.

There are four single acting outside packed plungers, which work into the ends of the water cylinders, the latter having central partitions. The water valves are easily accessible, and are contained in small chambers, capable of resisting very heavy pressures. The general arrangement shown in the engraving is subject to numerous alterations, according to various requirements, but the general characteristic of four outside packed plungers is in all cases preserved.



(Cut shows Worthington Pressure Pump. Size, 12 x 4½ x 10.)

Diameter of Steam Cylinders	Diameter of Water Plungers	Length of Stroke.	Displacement in Gallons per Stroke of ONE Plunger.	Proper Strokes per Minute of ONE Plunger Varying with Kind of Work and Pressure	Gallons Delivered per Minute by the FOUR Plungers at Stated Number of Strokes.	SIZES OF PIPES FOR SHORT LENGTHS. To be Increased as Length Increases.			
						Steam Pipe.	Exhaust Pipe	Suction Pipe	Delivery Pipe.
4¼	¾	4	.007	60 to 100	.8 to 1.4	¼	¾	¾	¾
4½	2	4	.054	60 to 100	6.4 to 10.8	⅝	¾	1½	1
5¼	⅞	5	.009	55 to 95	1 to 1.7	⅜	¾	¾	1¼
5¼	1¾	5	.038	55 to 95	4.1 to 7.2	⅝	1¼	1½	1½
5¼	2⅜	5	.106	55 to 95	5.8 to 10.	⅝	1½	2	1½
5¼	2⅞	5	.140	55 to 95	15. to 26.	⅝	1½	2	1½
6	¾	6	.01	50 to 90	1. to 1.8	1	1½	1¼	1½
6	1¾	6	.048	50 to 90	4.8 to 8.6	1	1½	1½	1½
6	2½	6	.127	50 to 90	12.7 to 22.8	1	1½	2	1½
6	3½	6	.25	50 to 90	25. to 45.	1	1½	2	1½
7¼	¾	6	01	50 to 90	1 to 1.8	1¼	2	1½	1½
7¼	1¾	6	.048	50 to 90	4.8 to 8.6	1½	2	1¼	1½
7¼	2½	6	.127	50 to 90	12.7 to 22.8	1½	2	2	1½
7¼	3½	6	.25	50 to 90	25. to 45.	1½	2	2	1½
7¼	1	10	.094	40 to 75	2.7 to 5.	1½	2	1¼	1
8	1	10	.034	40 to 75	2.7 to 5.	2	2¼	1½	1
10	1	10	.034	40 to 75	2.7 to 5.	2	2½	1½	1
12	1	10	.034	40 to 75	2.7 to 5.	2¼	3	1½	1
7¼	1¼	10	.076	40 to 75	6.8 to 11.4	1½	2	1½	1¼
9½	1½	10	.076	40 to 75	6.8 to 11.4	2	2¼	1½	1½
12	1½	10	.076	40 to 75	6.8 to 11.4	2¼	3	1½	1¾
7¼	2¼	10	.17	40 to 75	13.6 to 25.	1½	2	2½	2
9	2¼	10	.17	40 to 75	13.6 to 25.	2	2¼	2½	2
10	2¼	10	.17	40 to 75	13.6 to 25.	2	2½	2½	2
12	2¼	10	.17	40 to 75	13.6 to 25.	2¼	3	2½	2
14	2¼	10	.17	40 to 75	13.6 to 25.	2½	3	2½	2
16	2¼	10	.17	40 to 75	13.6 to 25.	2⅝	3	2½	2
9	3¼	10	.48	40 to 75	38. to 72.	2	2¼	2½	2
10	3¼	10	.48	40 to 75	38. to 72.	2	2½	2½	2
12	3¼	10	.48	40 to 75	38. to 72.	2¼	3	2½	2
16	3¼	10	.48	40 to 75	38. to 72.	2½	3	2½	2
18¼	3¼	10	.48	40 to 75	38. to 72.	3	3¼	2½	2
20	3¼	10	.48	40 to 75	38. to 72.	4	5	2½	2
10	4½	10	.69	40 to 75	55. to 104.	2	2¼	4	3
12	4½	10	.69	40 to 75	55. to 104.	2½	3	4	3

Prices on application.

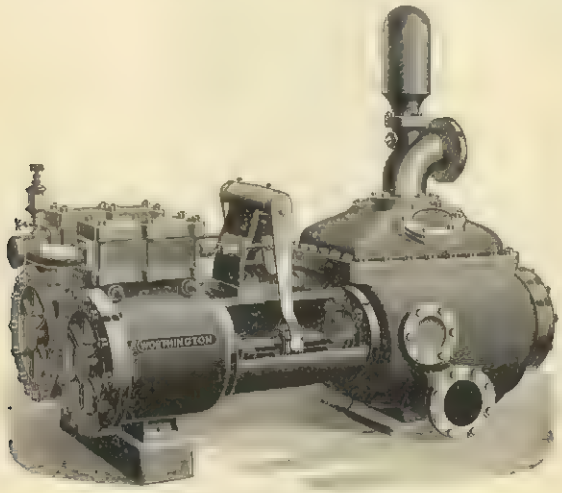
THE WORTHINGTON FIRE PUMP.

In this pattern the valve areas and water passages are unusually large, to insure the complete filling of the pump cylinders with water when the machine is running at its greatest speed.

The superiority of the Worthington valve motion is especially prominent in steam pumps applied to this service, for it enables them to run without jar, or danger of derangement at a very high rate of speed. With all forms of single-cylinder pumps under such circumstances, the concussion of the water valves at each reciprocation of the plunger, and the blow upon the valve rod tappets, are dangerously severe. To obviate this difficulty, the length of stroke is often unduly increased to reduce the number of these concussions in a given length of piston travel. It fixes, however, at a point that can be greatly exceeded by the Worthington, the practical limit of speed at which single pumps can be driven. There are no tappets in the valve motion of the Worthington pump. It neither strikes a blow nor operates suddenly upon the plunger. The piston cushions quietly upon steam at the end of the stroke, pauses for an instant until the water valves have closed, and then starts on the return stroke gradually, as its steam valve is opened by the motion of the opposite piston.

The pumps will also be fitted with two, four and six-way hose connections, when required.

It must be remembered in comparing these sizes with single cylinder pumps, that the Worthington has *two* double-acting plungers working together, and has therefore double the capacity of a single cylinder pump with a plunger of same diameter. The rated capacities of the pumps of 10-inch stroke given below are based upon a piston travel of about 83 and 125 feet per minute.



(Worthington Fire Pump. Size, G.)

Letter Sizes.	Diameter of Steam Cylinders.	Diameter of Water Plungers.	Length of Stroke.	Strokes per Minute of one Plunger.	Gallons Delivered per Minute by both Plungers at Stated Number of Strokes.	SIZES OF PIPES FOR SHORT LENGTHS To be Increased as Length Increases. Steam Pipe.	Exhaust Pipe.	Suction Pipe.	Discharge Pipe.	PRICE Regular Pattern.
A	7½	2¾	10	100 to 150	100 to 140	1¾	3	4	4	$330 00
AA	9	4	10	100 to 150	110 to 165	2	3½	4	4	365 00
B	9	4½	10	100 to 150	140 to 210	2	3½	4	4	365 00
BB	10	4½	10	100 to 150	140 to 210	2	3½	5	4	400 00
C	10	5	10	100 to 150	170 to 250	2	3½	5	5	400 00
CC	12	5½	10	100 to 150	190 to 280	2½	3	6	5	530 00
D	12	6	10	100 to 150	250 to 370	2½	3	6	5	530 00
DD	14	6	10	100 to 150	250 to 370	2½	3	6	5	560 00
E	14	7	10	100 to 150	335 to 500	2½	3	6	6	560 00
EE	16	7½	10	100 to 150	380 to 575	2½	3	6	6	700 00
F	16	8	10	100 to 150	435 to 650	2½	3	6	6	700 00
FF	18½	8½	10	100 to 150	490 to 735	3	3½	6	6	740 00
G	18½	9½	10	100 to 150	560 to 850	3	3½	8	7	850 00
GG	20	9½	10	100 to 150	560 to 850	4	4	8	7	890 00
H	20	10	10	100 to 150	680 to 1,020	4	5	8	7	890 00
HH	20	11	15	75 to 125	925 to 1,540	4	5	12	10	1,300 00

A slight additional charge is made when pumps are fitted with brass plungers and piston rods. An extra charge is also made for bed-plates.

Fishing Rods.

Plain Wood Bait Rods

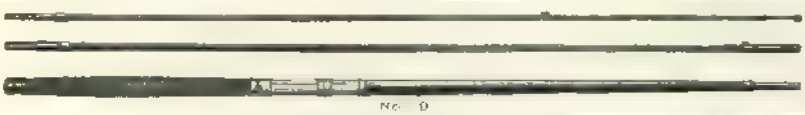
No.

NO.	DESCRIPTION.	PER DOZEN
1	3 Piece, Single Brass Ferrules, Length about 10½ feet, in Paper Bag,	$1 60
2	3 Piece, Stained, Single Brass Ferrules, Ringed, Length about 10½ ft., in Paper Bag,	3 00
5	4 Piece, Single Brass Ferrules, Length about 12 feet, in Paper Bag,	3 00
5½	4 Piece, Stained, Single Brass Ferrules, Standing Ring Guides, Ringed, Length about 12 feet, in Paper Bag,	5 00

Selected Wood Bait Rods.

No. 6½

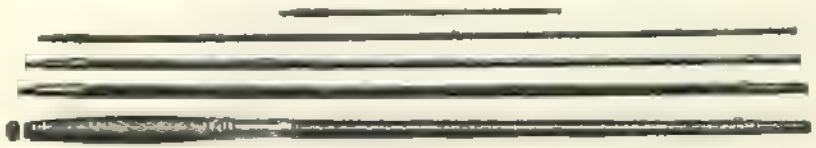
NO.	DESCRIPTION	PER DOZEN
4	3 Piece, Stained and Polished, Brass Mountings, Double Shoulder Ferrules, Standing Ring Guides, Capped Butt, with Reel Bands, Length about 10½ feet,	$ 9 00
6½	4 Piece, Stained and Polished, Brass Mountings, Double Shoulder Ferrules, Standing Ring Guides, Capped Butt, with Reel Bands, Length about 12 feet,	12 00
7	3 Piece, Ash, Stained and Polished, Double Brass Shoulder Ferrules, Standing Ring Guides, Reel Bands, Capped Butt, Lancewood Tip, in Paper Bag, Length 10½ feet,	16 50



No. 9

NO.	DESCRIPTION	PER DOZEN
19	3 Piece, Ash, Brass Rod, Nickel Plated Mountings, Improved Double Shoulder Ferrules Covered Dowels, Standing Ring Guides Corrugated Wood Grip, Lancewood Tips, Length about 9 feet, in Paper Bag,	$30 00

Selected Hollow Butt Bait Rods.



No 20.

NO.	DESCRIPTION.	PER DOZEN.
8½	3 Piece, Ash, Stained and Polished, Double Brass Shoulder Ferrules, Covered Dowels, Standing Ring Guides, Capped Butt, Reel Bands, Lancewood Tip, Hollow Butt, with One Extra Lancewood Tip in Butt, in Paper Bag, Length 9 feet,	$18 00
15	4 Piece, Ash, Stained and Polished, Brass Mountings, Double Shoulder Ferrules Standing Ring Guides, Covered Dowels, Reel Bands, Hollow Butt, Two Lancewood Tips (one in Butt), in Partitioned Cloth Bag, Length 12 feet,	24 00
20	4 Piece, Ash, French Stained and Polished, Nickel Mountings, Improved Double Shoulder Ferrules, Standing Ring Guides, Solid Metal Reel Seat, Two Lancewood Tips (one in Butt), Length about 12 feet, in Partitioned Cloth Bag,	36 00

Fishing Rods.

Bamboo Fishing Poles.

For several years it has been impossible to secure good Mississippi Cane Poles. As the Japanese are so superior in every way and but a trifle more expensive, we have decided to keep them only. We do not carry Calcutta Bamboo Poles.

We make a special feature of this line of goods, importing direct from Japan the cleanest and straightest poles to be had.

NO.	DESCRIPTION	PER 100
412	Japanese Bamboo, White, Length 12 feet, Assorted Sizes, 100 in a Bundle,	$12 00
414	Japanese Bamboo, White, Length 14 feet, Assorted Sizes, 100 in a Bundle,	14 00
416	Japanese Bamboo, White, Length 16 feet, Assorted Sizes, 100 in a Bundle,	16 00
418	Japanese Bamboo, White, Length 18 feet, Assorted Sizes, 50 in a Bundle,	20 00
420	Japanese Bamboo, White, Length 20 feet, Assorted Sizes, 50 in a Bundle,	24 00

Jointed Bamboo Fishing Rods.

No. 4

NO.	DESCRIPTION.	PER DOZEN
80	2 Piece Japanese Bamboo, Double Ferrules, Length 8 to 9 feet,	$ 4 00
85	2 Piece Calcutta Bamboo, Double Ferrules, Ringed, Reel Bands and Capped Butt, Length 8 to 9 feet,	7 00
90	3 Piece Japanese Bamboo, Double Ferrules, Capped Butt, Length 11 to 12 feet,	7 [illegible]
100	3 Piece Calcutta Bamboo, Double Ferrules, Length 11 to 14 feet,	8 00
106	3 Piece Calcutta Bamboo, Double Ferrules, Standing Guides, Reel Bands and Capped Butt, Cane Wound, Length 10 to 12 feet,	19 00
100½	3 Piece Calcutta Bamboo, Double Ferrules, Standing Ring Guides, Capped End, Reel Bands, Length 10½ feet,	14 00
108	4 Piece Calcutta Bamboo, Double Ferrules, Standing Guides, Capped Butt, Length 14 to 17 feet,	15 00
111	4 Piece Calcutta Bamboo, Double Ferrules, Standing Guides, Reel Bands and Capped Butt, Length 14 to 17 feet,	20 00
117	3 Piece Calcutta Bamboo, Double Ferrules, Standing Ring Guides, Reel Bands, Capped and Cane Wound Butt, One Extra Lancewood Tip in Butt, Length 10 to 12 feet,	[illegible] 00
120	5 Piece Calcutta Bamboo, Double Ferrules, Standing Ring Guides, Reel Bands, Capped and Cane Wound above and below Reel Seat, One Extra Tip in Butt, Length 20 feet; a great favorite when an extra long, strong Rod is wanted,	47 00

Fine Jointed Bamboo Fishing Rods.

No. 180.

NO.	DESCRIPTION	PER DOZEN
130	3 Piece Calcutta Bamboo, Double Rammed Shoulder Ferrules, Silk Wound, Anti-friction Tie Guides, Covered Dowels, Solid Reel Seat, Capped Corrugated Zylonite Butt, Extra Lancewood Tip, in Partitioned Cloth Bag, Length 9 to 11 feet,	$12 00
134	3 Piece Japanese Bamboo, Polished Brass Trimmings, Improved Shoulder Ferrules, Silk Wound Tie Guides, Reel Bands, Capped Corrugated Wood Butt, in Paper Bag, Length about 10 feet,	24 00

Fishing Rods.

Wood Fly Rods.

No. 82.

NO.	DESCRIPTION.	PER DOZEN
32	3 Piece, Ash, Stained and Polished, Double Brass Shoulder Ferrules, Ringed, Reel Band below hand, Capped Butt, Lancewood Tip, in Paper Bag, Length 10½ feet,	$12 00
18	3 Piece, American Lancewood, Nickel Plated Mountings, Improved Shoulder Ferrules, Silk Wound Ring Guides, Covered Dowels, Solid Metal Reel Seat below hand, Imitation Zylonite Butt, Extra Lancewood Tip, in Cloth Bag, Length 10 feet,	30 00
36	3 Piece, all Lancewood, Finely Nickel Plated, Improved Rimmed Shoulder Ferrules, Silk Wound Tie Guides, Covered Dowels, Solid Metal Reel Seat below hand, Corrugated Zylonite Butt, with One Extra Tip, on Wood Form and Cloth Bag, Length 10½ feet,	36 00

Selected Lancewood Fly Rod.

No. 39

NO.	DESCRIPTION.	PER DOZEN.
39	3 Piece, Best Selected Lancewood, Closely Whipped with Silk Windings, Fine Nickel Plated Mountings, Improved Rimmed Shoulder Ferrules, Silk Wound Ring Guides, Covered Dowels, Metal Reel Seat below hand, Corrugated Zylonite Butt, with Extra Lancewood Tip, in Wood Form and Cloth Bag, Length 10½ feet,	$60 00

Wood Trunk Rods.

No. 50

NO.	DESCRIPTION.	PER DOZEN
51	6 Piece, Wood Trunk Bass Rod, Polished Brass Mountings, Improved Shoulder Ferrules, Standing Ring Guides, Cap Butt and Reel Seat, Two Lengths; Short Rod about 7½ feet, and Long Rod about 10 feet,	$18 00
51½	5 Piece, Wood Trunk Fly Rod, Polished Brass Mountings, Improved Shoulder Ferrules, Ring Guides, Cap Butt, Reel Seat below hand, Length about 9½ feet,	20 00
50	6 Piece, all Lancewood, Fine Nickel Plated Mountings, Improved Double Rimmed Shoulder Ferrules, Anti friction Silk Wound Guides, Covered Dowels, Solid Metal Reel Seat above hand, Corrugated Zylonite Butt, Two Extra Lancewood Tips, Two Lengths. As a Light Casting Rod, 9½ feet; as a Heavy Boat Rod 7½ feet: in Partitioned Cloth Bag,	48 00

These Rods are [illegible] to be ready packed in an oval carry-traveling trunk and, like the General Rod, can be used for both a Light Casting or Heavy Boat Rod.

Bamboo Trunk Rods.

NO.	DESCRIPTION.	[illegible]
115	5 Piece, Calcutta Bamboo, Double Ferrules, Standing Ring Guides, Reel Bands, Capped Butt, Length about 10 feet, in Paper Bag,	$20 00

Fishing Rods.

Lancewood Bass Rods.

NO.	DESCRIPTION.	EACH
17	3 Piece, All Lancewood, Nickel Plated Improved Shoulder Ferrules, Silk Wound Tie Guides, Covered Dowels, Solid Metal Reel Seat, Corrugated Imitation Zylonite Butt, Extra Lancewood Tip, in Cloth Bag, Length 7 to 8½ feet,	$2 50
25	3 Piece, All Lancewood, Fine Nickel Plated Mountings, Improved Double Rimmed Shoulder Ferrules, Covered Dowels, Silk Wound Anti-friction Tie Guides, Solid Metal Reel Seat, Corrugated Zylonite Butt, Extra Lancewood Tip, in Wood Form and Cloth Bag, Length 7 to 8½ feet,	3 00

Selected Lancewood Bass Rods

No. 29

NO.	DESCRIPTION.	EACH.
29	3 Piece, Best Selected Lancewood, Closely Whipped with Silk Windings, Fine Nickel Plated Mountings, Improved Double Rimmed Shoulder Ferrules, Covered Dowels, Silk Wound Anti-friction Tie Guides, Solid Metal Reel Seat above hand, Corrugated Zylonite Butt, Extra Tip, in Wood Form and Cloth Bag, Length 7 to 8 feet,	$5 00

Extra Heavy Selected Lancewood Bass Rods.

NO	DESCRIPTION	EACH
26	3 Piece, Selected Lancewood, Extra Heavy, Fine Nickel Plated Mountings, Improved Double Rimmed Shoulder Ferrules, Covered Dowels, Silk Wound Anti-friction Tie Guides, Silk Wound at Short Intervals, Solid Metal Reel Seat, Corrugated Zylonite Butt above and below hand, Extra Tip, with the addition of Extra Second Joint and One Extra Long Heavy Tip, to fit Butt, thus making a short, stout Bass Rod, in Partitioned Cloth Bag, Full Length 10½ feet, Short Length 6 feet,	$6 00

Extra Fine Lancewood Muskallonge Rod.

NO.	DESCRIPTION	EACH
45	Muskallonge Rod, 3 Piece, Best Selected Lancewood, Silk Wound at Short Intervals, Fine Nickel Plated Milled Mountings, Improved Rimmed Shoulder Ferrules, Covered Dowels, Silk Wound Anti-friction Guides, Solid Metal Reel Seat, Wound Grip above and below Reel Seat, Extra Tip, in Wood Form and Cloth Bag, Length 8½ feet,	$8 00

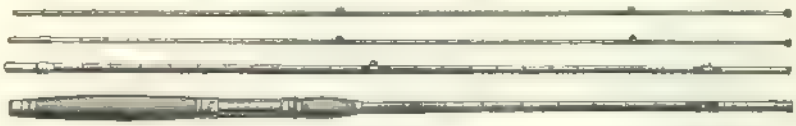
Fishing Rods.

Lancewood Bass Casting Rods.

No. 80.

NO.	DESCRIPTION	EACH
80	2 Piece Fine Quality Selected White Lancewood Bass Casting Rod, Nickel Mountings, Rimmed Shoulder Ferrules, Standing Anti-friction Guides, Silk Wound, Metal Reel Seat, Fancy Zylonite Grip, Extra Tip in Wood Form and Cloth Bag, Weight about 7¾ ounces, Length 6½ feet,	$6 00

Hand Made Lancewood Bass and Fly Rods.



No. 87.

NO.	DESCRIPTION	EACH
87	3 Piece Best Selected Lancewood Bass Rod, Hand Made Throughout, Henshall Pattern, Nickel Plated Mountings, Rimmed Shoulder Ferrules, Silk Wound Standing Anti-friction Rimmed Guides, Solid Metal Reel Seat, Cork Grip above and below hand, Complete Rod wound with Silk at short intervals, in Wood Form and Cloth Bag, Weight about 9 ounces, Length about 8 feet,	$10 00
27	3 Piece Fine Quality Selected Lancewood Fly Rod, Nickel Plated Mountings, Double Rimmed Shoulder Ferrules, Covered Dowels, Ring Guides, Corrugated White Zylonite Grip, Reel Seat below hand, Extra Tip, Weight about 5 ounces, Length about 8½ feet, in Covered Wood Form and Cloth Bag,	6 00

Combination Rods.

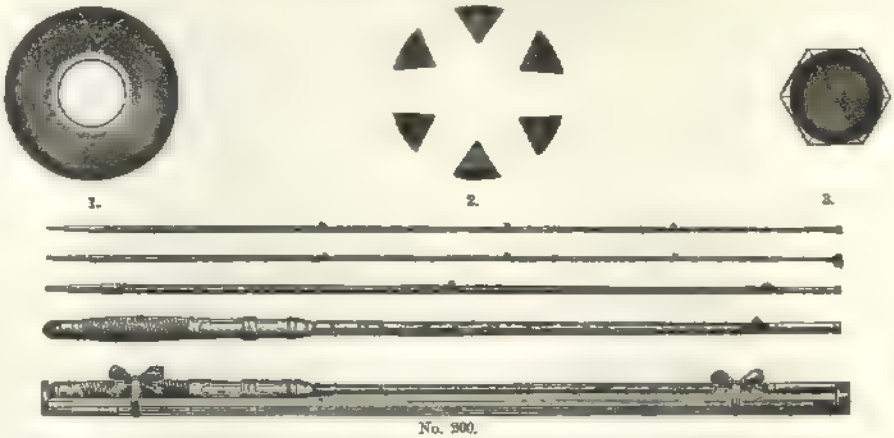
No. 40.

NO.	DESCRIPTION.	EACH
40	4 Piece Lancewood, with Light French Finished Ash Butt and Second Joint, Finely Polished Brass Mountings, Improved Shoulder Ferrules, Covered Dowels, Standing Guides, Reel Bands, with One Extra Tip in Butt and One Extra Heavy Tip to fit in Second Joint, thus making a 3 Piece Bass Rod,	$4 50
41	7 Piece Ash and Lancewood Combination Rod, Full Nickel Plated Mountings, Double Rimmed Shoulder Ferrules, Covered Dowels, Silk Wound Anti friction Guides, Two Butts—one 3 foot Hollow Ash, with Solid Metal Reel Seat above hand, and One about 15 inch Metal Butt with Solid Metal Reel Seat below hand, Corrugated Zylonite Grip, Silk Wound at intervals, Length as Bass Rod about 7 and 8½ feet as a Fly Rod about 8 and 9½ feet. An Extra Long Rod (11½ feet) can be made by using the Ash Butt. In Cloth Partitioned Bag,	6 00

This Rod can be used as a short, stout Boat or Bass Trolling Rod, a medium General Rod, or a long elastic Casting Rod.

Fishing Rods.

Fine Hexagonal Split Bamboo Rods.



No. 200.

NO.	DESCRIPTION	EACH
160	3 Piece, Hexagonal Split Bamboo Bass Rod, Weight about 8 ounces, Length about 7½ feet, Nickel Plated Mountings, Shoulder Ferrules, Covered Dowels, Silk Wound Tie Guides, Solid Metal Reel Seat, Cork Butt, Extra Tip, in Wood Form and Cloth Bag,	$ 3 00
167	3 Piece, Hexagonal Split Bamboo Fly Rod, Weight about 6¼ ounces, Length about 9½ feet, Nickel Plated Mountings, Shoulder Ferrules, Covered Dowels, Silk Wound Ring Guides, Solid Metal Reel Seat below hand, Cork Butt, Extra Tip, in Wood Form and Cloth Bag,	3 00
180	3 Piece, Hexagonal Split Bamboo Fly Rod, Weight 8 ounces, Length 7 to 8½ feet, Fine Nickel Plated Mountings, Shoulder Ferrules, Solid Metal Reel Seat, Silk Wound Tie Guides, One Extra Tip, Cork Butt, in Wood Form and Cloth Bag,	4 00
195	3 Piece, Hexagonal Split Bamboo Fly or Trout Rod, Weight 6½ to 7½ ounces, Length 10 feet, Fine Nickel Plated Mountings, Shoulder Ferrules, Solid Metal Reel Seat, Silk Wound Ring Guides, One Extra Tip, Cork Butt, in Wood Form and Cloth Bag,	4 00
200	3 Piece, Hexagonal Split Bamboo Bass Rod, Weight 8 to 9 ounces, Length 7½ to 8½ feet, Fine Nickel Plated Mountings, Rimmed Shoulder Ferrules, Solid Metal Reel Seat, Silk Wound Tie Guides, Extra Tip, Cork Grip, put up in Grooved Wood Form and Cloth Bag,	5 00
205	3 Piece, Hexagonal Split Bamboo Fly or Trout Rod, Weight 6½ ounces, Length 10½ feet, Fine Nickel Plated Mountings, Rimmed Shoulder Ferrules, Solid Metal Reel Seat, Silk Wound Ring Guides, Extra Tip, Cork Grip, put up in Grooved Wood Form and Cloth Bag,	5 50
208	6 Piece, Hexagonal Split Bamboo Bass Trunk Rod, Weight 11½ ounces, Length 9 to 10 feet, Fine Nickel Plated Mountings, Improved Rimmed Shoulder Ferrules, Silk Wound Tie Guides, Solid Metal Reel Seat, One Extra Tip, Half Swell and Cork Butt, in Cloth Bag Partitioned,	6 50
209	6 Piece, Hexagonal Split Bamboo Fly Trunk Rod, Weight 7½ to 8½ ounces, Length 10 to 10½ feet, Fine Nickel Plated Mountings, Improved Rimmed Shoulder Ferrules, Silk Wound Tie Guides, Solid Metal Reel Seat, One Extra Tip, Half Swell and Cork Butt, in Cloth Bag Partitioned,	6 50
220	3 Piece, Hexagonal Split Bamboo Henshall Bass Rod, Weight 8 to 8½ ounces, Length 8 to 8½ feet, Fine Nickel Plated Mountings, Improved Rimmed Shoulder Ferrules, Nickel Plated Reel Seat, Anti friction Silk Wound Tie Guides, Metal Plugs, Extra Tip, Cork Butt, put up in Cloth Covered Wood Form and Cloth Bag,	10 00
210	3 Piece, Hexagonal Split Bamboo Fly or Trout Rod, Weight 7 to 7½ ounces, Length 10 to 10½ feet, Fine Nickel Plated Mountings, Improved Rimmed Shoulder Ferrules, Silk Wound Ring Guides, Metal Plugs, Nickel Plated Reel Seat, Extra Tip, Cork Butt, put up in Cloth Covered Wood Form and Cloth Bag,	10 00
215	4 Piece, Split Bamboo Combination Rod, Full Nickel Plated Mountings, Rimmed Shoulder Ferrules, Henshall Pattern, Silk Wound Guides, Reversible Cork Butt. As Bass Casting Rod, Weight 8 ounces, Length 7 to 7½ feet; as Fly Rod, Weight 7½ ounces, Length 10 to 10½ feet,	10 00

Fishing Rods.

Extra Quality Hexagonal Split Bamboo Bass Rods.

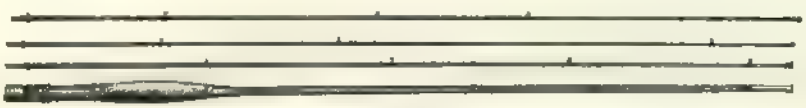
No. 260

NO.	DESCRIPTION.	EACH.
260	H. S. Brown, Fine Quality, 3 Piece Split Bamboo Bass Casting Rod, Weight 6½ ounces, Length 6½ to 6¾ feet, Nickel Plated Mountings, Henshall Pattern Shoulder Ferrules, Anti-friction Guides, wound very closely with Silk, Cork Butt, with Extra Grip above Reel Seat, Extra Tip, put up in Covered Wood Form and Cloth Bag, - - - - - - - -	$10 00

No. 250.

NO.	DESCRIPTION	EACH.
250	Finest Quality, 3 Piece Hexagonal Selected Split Bamboo Bass Rod Hand Made Throughout, Weight 9 ounces, Length 8 feet 3 inches, Fine German Silver Milled Mountings, Improved Waterproof Rimmed Shoulder Ferrules, Anti-friction Rimmed Silk Wound Guides, Agate Tip, Solid German Silver Reel Seat, Full Swell, Inlaid with Cedar and Bamboo Cork Grip, Alternate Silk Windings at Short Intervals, Extra Full Length Tip, in Covered Wood Form and Cloth Bag, - - - - - - - -	$20 00

Extra Quality Hexagonal Split Bamboo Fly Rods.



No. 255.

NO.	DESCRIPTION.	EACH.
255	3 Piece Hexagonal Selected Split Bamboo Fly Rod, Hand Made Throughout, German Silver Mountings, Double Rimmed Waterproof Shoulder Ferrules, Henshall Pattern, Silk Wound Ring Guides, Cork Grip, Metal Lined Reel Seat below hand, Extra Tip, Weight about 3¼ ounces, Length about 8½ feet, in Fancy Covered Wood Form and Cloth Bag, - - - -	$16 00

FISHING TACKLE,

BASE BALL,

FOOT BALL, TENNIS

AND

GYMNASIUM GOODS

Decorated Metal Base Lamps.

Height, 11½ inches.

No. 66 8.
Height, 11½ inches.

No. 66 8.
Height 12 inches.

Height, inches.

We invite particular attention to these Lamps.

Metal Bases, Handsome Hand Decorated Centers, Large Imitation Cut Glass Founts, and No. 2 Collars. Nos. 6612, 6615, and 6618 have Black Bases. Nos. 6621, 6627, and 6624 have Brass Plated Bases. All have Polished Brass Trimmings.

Height, 12½ inches.

We have made assorted packages of these Lamps, with a view to please the trade. No. 81 consists of one dozen Black Base Lamps; No. 82 is made up of one dozen Brass Plated Base Lamps; No. 83 assortment has one-half dozen Black Base and one-half doz. Brass Base Lamps.

Assortments.

NO.	DESCRIPTION	RATE
81	1 Dozen Lamps, as above, ½ Dozen each Nos. [illegible] Decorations,	$ 6 65
82	1 Dozen Lamps, as above, ½ Dozen each Nos. 6621, 6627, and 6624, all Brass Bases, assorted Decorations,	10 20
83	1 Dozen Lamps, as above, two of each Lamp shown on this page, assorted Decorations,	8 80

SOLD IN PACKAGE ONLY. PRICES DO NOT INCLUDE BURNERS.
PACKAGE (BARREL), 85 CENTS NET.

No. 6624.
Height, inches.

"Princess" Lamp Assortment.

Fine Decorated and Tinted Glass Lamps,

With Chimneys to Match,

Embossed Burners.

NO.	DESCRIPTION	DOZ.
D612	Lamp, complete as above, with No. 2 Embossed Burner and No. 2 Princess Chimney, -	$11 10

Height to top of Chimney 20 inches

NO.	DESCRIPTION	DOZ.
D891	Lamp complete as above, with No. 2 Embossed Burner and No. 2 Princess Chimney,	$9 35

Height to top of Chimney, 19 inches.

NO.	DESCRIPTION	DOZ.
D841	Lamp, complete as above, with No. 2 Embossed Burner and No. 2 Princess Chimney,	$8 80

Height to top of Chimney 17½ inches.

NO.	DESCRIPTION	DOZ.
D821	Lamp, complete as above, with No. 1 Embossed Burner and No. 1 Princess Chimney,	$6 65

Height to top of Chimney, 16½ inches.

NO.	DESCRIPTION	DOZ.
D791	Lamp, complete as above, with No. 1 Embossed Burner and No. 1 Princess Chimney, -	$6 25

Height to top of Chimney, 16 inches.

No. D10 Assortment. 1 1-2 Dozen Lamps, assorted Colors and Sizes, Complete with Embossed Burners and Chimneys, 6-6 Dozen with No. 2 Burners and Chimneys, 2-3 Dozen with No 1 Burners and Chimneys.

No. D10 Assortment

Containing the following Lamps in quantities named

DOZEN.	NO.	DESCRIPTION	PER DOZ.	TOTAL
½	D791	Complete as shown above,	$ 6 25	$2 08
½	D821	Complete as shown above	6 65	2 22
½	D841	Complete as shown above	8 90	2 97
½	D861	Complete as shown above	9 35	2 34
¼	D612	Complete as shown above	11 10	2 78
1½ Dozen in all, assortment complete for				$12 39

In order to make this assortment attractive in price as well as in appearance we make a deduction of 74 cents list from above figures, making the list price for the assortment $11 65

PACKAGE (BARREL), 35 CENTS NET.

Glass Lamps with Decorated Bases.

Fluted Bowl, with Stem and Base Decorated in Gilt, Leaves and Flowers in Bright Colors.

NO.	DESCRIPTION	DOZ.
D457	Lamp, as above,	$3 75
D460	Same, with No. 2 Sun Embossed Burner,	4 75

Height 10½ inches. No. 3 Collar

NO.	DESCRIPTION	DOZ.
D458	Lamp, as above,	$4 60
D458	Same, with No. 2 Sun Embossed Burner,	5 80

Height 9¾ inches. No. 3 Collar

NO.	DESCRIPTION	DOZ.
D456	Lamp, as above,	$3 70
D456	Same, with No. 2 Sun Embossed Burner,	4 90

Height 9¼ inches. No. 2 Collar

NO.	DESCRIPTION	DOZ.
D453	Lamp, as above,	$2 95
D454	Same, with No. 1 Sun Embossed Burner,	3 80

Height 8¾ inches. No. 2 Collar

NO.	DESCRIPTION	DOZ.
D470	Lamp, as above,	$2 75
D47[illegible]	Same, with No. 1 Sun Embossed Burner,	3 60

Height 4¼ inches. No. 1 Collar

NO.	DESCRIPTION	DOZ.
D451	Lamp, as above,	$2 75
D452	Same, with No. 1 Sun Embossed Burner,	3 60

Height, 7⅝ inches. No. 1 Collar

No. D501 Assortment

DOZ.	NO.	DESCRIPTION	PER DOZ.	
¼	D470	Footed Hand Lamp, as above,	$2 75	$0 69
¼	D451	Stand Lamp, No. 1 Collar,	2 75	1 38
¼	D458	Stand Lamp, No. 1 Collar,	2 95	1 48
1	D455	Stand Lamp, No. 2 Collar,	3 70	3 70
¼	D457	Stand Lamp, No. 3 Collar	4 60	2 30
¼	D459	Stand Lamp, No. 2 Collar,	5 55	1 39
3 Doz. in all, without Burners, Assortment for				$10 94

This assortment of three dozen Lamps will prove to be a good one. We make it more attractive by deducting 94 cents, net, making the list price $10 00.

PACKAGE (BARREL), 35 CENTS NET.

This Lamp, Decorated as it is, supplies the demand for a cheap fancy Lamp Colors are bright and Design is tasteful.

Heavy Pressed All Glass Lamps.

No. A461

NO.	DESCRIPTION	DOZEN
A460	Lamp without Burner	$1 85
A461	Lamp, with No. 1 Sun Burner,	2 70

Height to top of Collar 3½ inches. No. 1 Collar.

Guaranteed to be the best Glass Lamps made.

NO.	DESCRIPTION	DOZEN
A462	Lamp without Burner -	$2 95
A463	Lamp with No. 1 Sun Burner,	3 80

Height to top of Collar 8 inches. No. 1 Collar.

NO.	DESCRIPTION	DOZEN
A464	Lamp without Burner	$3 70
A465	Lamp with No. 1 Sun Burner	4 35

Height to top of Collar 8 inches. No. 1 Collar.

Heavy Sewing Lamps, Large Bowls and Solid Stems.

No. D468

Height, 8½ inches. No. 3 Collar.

NO.	DESCRIPTION	DOZEN
D466	Lamp, without Burner,	$7 40
D467	Lamp with No. 3 Sun Burner	9 70

This is a splendid Sewing or House Lamp.

NO.	DESCRIPTION	DOZEN
D1152	Lamp, without Burner, -	$6 05
D1153	Lamp, with No. 2 Sun Burner, -	8 15

Height 10 inches. No. 2 Collar.

No. D1152

Height, 10 inches. No. 2 Collar

"Clinched on Collar" Lamps.

No. D000 Assortment.

Nos. D1722 and D1732

No.	DESCRIPTION	Doz.
D1722	Lamp as above	$3 60
D1732	Same, No. 2 Sun Burner,	5 80

Height, 9 inches. No. 2 Collar

Nos. D1702 and D1712

No.	DESCRIPTION	Doz.
D1702	Lamp as above	$4 05
D1712	Same, with No. 1 Sun Burner	5 25

Height, 9 inches. No. 2 Collar

Nos. D1722 and D1732

No.	DESCRIPTION	Doz.
D1722	Lamp as above	$3 60
D1732	Same, with No. 2 Sun Burner,	4 85

Height, 9 inches. No. 2 Collar

Nos. D1701 and D1731

No.	DESCRIPTION	Doz.
D1701	Lamp as above	$2 00
D1731	Same, with No. 1 Sun Burner	3 40

Height, 7½ inches. No. 1 Collar

Nos. D1301 and D1331

No.	DESCRIPTION	Doz.
D1301	Lamp as above,	$2 20
D1331	Same with No. 1 Sun Burner,	3 05

Height 7½ inches. No. 1 Collar

Nos. D1 and D1

No.	DESCRIPTION	Doz.
D1	Hand Lamp, as above,	$2 20
D1	Same, with No. 1 Sun Embossed Burner,	3 05

Capacity, 1 pint

Clinched on Collars
Cannot come off
They are Durable and Safe.

No. D000 Assortment

Doz.	No.	DESCRIPTION	Per Doz.	
	D1	Hand Lamp, as above,	$ 20	55
	D1	Same, with No. 1 Collar,	20	55
	D1	Same, with No. 1 Collar,	60	1 30
	D1	Same (open), No. Burner,	3	3 15
	D1	Same, with No. 2 Collar,	4	1 01
	D1	Same, Lamp No. Burner		15

2½ Dozen, assorted as ordered, for $7 71

These assorted lots are packed in barrels for convenient shipping, and sold at $7.71 per barrel. As the prices when ordered [illegible] assorting list price $7.71. Does not include Burners.

PACKAGE BARREL, 35 CENTS NET

No Cement, no Plaster
Cannot leak through the Collar
All weak, imperfect Lamps are crushed in putting on the "Clinched on" Collar

Glass Lamps.

NO.	DESCRIPTION	DOZ.
D448	Lamp, as above,	$3 15
	Same, with No. 2 Sun Embossed Burner,	4 35

Height, 9½ inches. No. 2 Collar.

NO.	DESCRIPTION	DOZ.
D445	Lamp, as above,	$2 77
D446	Same, with No. 2 Sun Embossed Burner,	3 95

Height 9½ inches. No. 2 Collar.

NO.	DESCRIPTION	DOZ.
D443	Lamp, as above	$2 05
D444	Same with No. 1 Sun Embossed Burner,	2 80

Height 8½ inches. No. 1 Collar.

NO.	DESCRIPTION	DOZ.
D441	Lamp as above	$1 65
D442	Same with No. 1 Sun Embossed Burner,	2 50

Height, 7½ inches. No. 1 Collar.

NO.	DESCRIPTION	DOZ.
D873	Lamp, as above,	$1 35
D874	Same, with No. 1 Sun Embossed Burner,	2 30

Height, 3¼ inches. No. 1 Collar

NO.	DESCRIPTION.	DOZ.
D875	Lamp, as above,	$1 65
D874	Same, with No. 1 Sun Embossed Burner,	2 50

Height 5 inches. No. 1 Collar

NO.	DESCRIPTION	DOZ.
D448	Lamp, as above,	$3 70
D450	Same, with No. 2 Sun Embossed Burner,	4 90

Height 10 inches. No. 2 Collar

This assortment gives a Merchant a line of Lamps.

No. D501 Assortment.

DOZ.	NO.	DESCRIPTION	DOZ.	
½	D773	Flat Hand Lamp, as above,	$1 35	34
½	D873	Footed Hand Lamp as above,	1 65	42
½	D441	Stand Lamp, as above,	1 65	83
½	D443	Stand Lamp, as above,	2 05	1 03
½	D445	Stand Lamp, as above,	2 75	2 07
½	D447	Stand Lamp, as above,	3 15	1 58
½	D449	Stand Lamp, as above,	3 70	93
3 Dozen, Assortment Complete for				$7 20

This assortment is cheap at $7.20 net, the price the Lamps figure by the dozen, but to assist those desiring the Lamps as we have packed them we will deduct $1.8 from the list making the assortment for $6.20. A few pieces do not include Burners.

PACKAGE (BARREL), 35 CENTS NET

Heavy Lamps.

Clear Glass.

Late Patterns.

Glass Lamps.

NO.	DESCRIPTION.	DOZ.
D439	Lamp, as above,	$3 70
D440	Same, with No. 2 Sun Embossed Burner,	4 50

Height 10¾ inches. No. 3 Collar.

NO.	DESCRIPTION.	DOZ.
D437	Lamp, as above	$3 05
D438	Same, with No. 2 Sun Embossed Burner,	4 25

Height 9½ inches. No. 2 Collar.

NO.	DESCRIPTION.	DOZ.
D435	Lamp, as above,	$2 30
D436	Same with No. 2 Sun Embossed Burner,	3 50

Height, 9 inches. No. 2 Collar.

NO.	DESCRIPTION.	DOZ.
D433	Lamp, as above,	$1 85
D434	Same, with No. 1 Sun Embossed Burner,	2 70

Height, 8½ inches. No. 1 Collar.

NO.	DESCRIPTION.	DOZ.
D431	Lamp, as above,	$1 40
D432	Same, with No. 1 Sun Embossed Burner	2 20

Height 7½ inches. No. 1 Collar.

NO.	DESCRIPTION.	DOZ.
D870	Lamp, as above,	$1 20
D871	Same, with No. 1 Sun Embossed Burner,	2 05

Height 3½ inches. No. 1 Collar.

NO.	DESCRIPTION.	DOZ.
D877	Lamp, as above,	$1 40
D878	Same, with No. 1 Sun Embossed Burner,	2 20

Height, 4½ inches. No. 1 Collar

No. D401 Assortment.

DOZ.	NO.	DESCRIPTION	PER DOZ	
½	D370	Hand Lamp, as above,	$1 20	30
½	D876	Footed Hand Lamp, as above,	1 40	35
½	D431	Stand Lamp, as above,	1 40	70
½	D433	Stand Lamp, as above,	1 85	93
½	D435	Stand Lamp, as above,	2 30	1 74
½	D437	Stand Lamp, as above,	3 05	1 53
½	D439	Stand Lamp, as above,	3 70	93
8 Dozen in all, assortment complete for				$6 48

This assortment, of seven sizes, gives the dealer at small cost a varied stock, and this fact increases sales. We deduct 38 cents list when bought in the assortment, making a list price of $6.10. Burners are not included.

PACKAGE (BARREL), 35 CENTS NET

These Lamps are carefully selected, of clear glass, good weight, and, as the illustrations indicate, are of a pattern pleasing to all.

Glass Hand Lamps.

NO.	DESCRIPTION	DOZEN
D370	Lamp, as shown above,	$1 20
D371	Same, with No. 1 Embossed Sun Burner,	2 05

Height, 4½ inches. No. 1 Collar.

NO.	DESCRIPTION	DOZEN
D470	Lamp, as shown above,	$2 75
D471	Same, with No. 1 Embossed Sun Burner,	3 60

Decorated clear. Height, 4½ inches. No. 1 Collar.

NO.	DESCRIPTION	DOZEN.
D773	Lamp, as shown above,	$1 35
D775	Same, with No. 1 Embossed Sun Burner,	2 30

Height, 3½ inches. No. 1 Collar.

Clinched-on Collar.

NO.	DESCRIPTION	DOZEN.
880	Lamp, as shown above,	$1 00
810	Same, with No. 1 Embossed Sun Burner,	2 45

Height 5½ inches. No. 1 Collar.

NO.	DESCRIPTION.	DOZEN.
871	Lamp, as shown above,	$1 20
872	Same, with No. 1 Embossed Sun Burner,	2 65

Height, 5½ inches. No. 1 Collar.

Clinched-on Collar.

NO.	DESCRIPTION.	DOZEN.
D860	Lamp, as shown above,	$2 20
D870	Same, with No. 1 Embossed Sun Burner,	3 05

Height, 6 inches. No. 1 Collar.

NO.	DESCRIPTION	DOZEN.
D875	Lamp, as shown above,	$1 40
D876	Same, with No. 1 Embossed Sun Burner,	2 20

Height, 6 inches. No. 1 Collar.

NO.	DESCRIPTION.	DOZEN.
460	Lamp, as shown above,	$1 85
461	Same, with No. 1 Embossed Sun Burner,	2 70

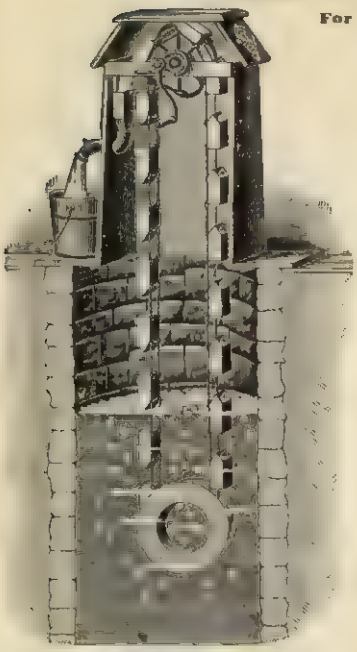
Heavy Pressed Lamp. Height, 8½ in. No. 1 Collar.

NO.	DESCRIPTION.	DOZEN.
D873	Lamp, as shown above,	$1 65
D874	Same, with No. 1 Embossed Sun Burner,	2 50

Height, 8 inches. No. 1 Collar.

NATIONAL WATER ELEVATOR AND PURIFIER.

For Wells and Cisterns.



No iron rust to taint the water. No valves to pack or wear. No wooden tube to rot. No freeze-up possible. Simple in construction. A child can operate it.

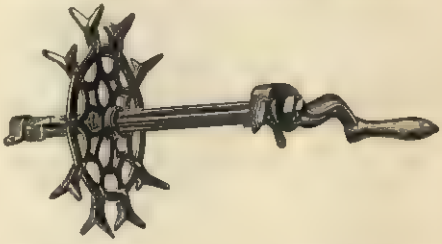
The National Water Elevator is justly termed also a Purifier. By forcing air into the stagnant depths of wells or cisterns, it corrects the foul conditions, and carries destruction to microbes and wigglers. The buckets go into the water in an inverted position, full of air, which is discharged at the bottom. They then fill with water from the lowest and coldest stratum, and deliver it at the curb, free from taint of rotten well-tubing or rusty iron.

PRICES.

No. 1 Curb, with Double-Geared, Japanned Fixtures, complete.....each,	$5 50
Galvanized Bucket Chain.....per foot,	30
Fixtures only, complete, Japanned, Double-Geared.....per set,	3 00
Fixtures only, complete, Galvanized, Double-Geared.....per set,	4 00

Box Curb, with Wooden Spout.

NELSON CHAIN PUMPS AND FIXTURES.



Victor Expansion Bucket.

Cooper's Grooved Bucket.

PRICE LIST.

National Noiseless Fixtures.....per doz. sets,	$ 8 00
Box Curbs, iron spouts.....per doz.,	15 00.
Box Curbs, wood spouts, as in cut ..... " "	12 00
Column Curbs, iron spouts, 24.00; with wood spouts...	21 00
Iron Curbs.....each,	9 00
Clamps.....per doz.,	1 25
Iron spouts, round pattern..... " "	2 50
Cham-Button, or no Button .....per lb.,	13
Tubing, Poplar, plain.....per ft.,	05
Wood Rollers, for bottom of tubing.....each,	20
Wood Reservoir pieces, for box curbs..... "	25
Victor Expansion Buckets.....per doz.,	2 00
Cooper's Grooved Buckets..... " "	3 00

CLOSED TOP PITCHER SPOUT PUMPS.

With Revolving Brake, Bolt Fastenings and Cut-off Base.

Fig. 205½.

Fig. 205½ shows our new style Pitcher Spout Pump. They are fitted up in the very best manner, with revolving standard or bearer, so made that by raising the lever the valves are tripped and the water let out of the Pump.

These Pumps are arranged to be used for either lead or wrought-iron pipe, by a coupling nut fastened to the hub under the base, through which a brass soldering tube is introduced.

No.	Diam. Cyl.	Suction.	Gal. per stroke.	Price.
1	2½ in.	1 in.	1-12	$4 25
2	3 "	1¼ "	1-9	4 75
3	3½ "	1¼ "	1 6	5 25
4	4 "	1½ "	1 5	5 75
5	4½ "	1½ "	3 10	6 25

Fig. 923.

Fig. 923 is of less weight or bulk than our regular stock Pitcher Pump, but on that account not lacking in either requisite strength or capacity, for it possesses both in equal degree with corresponding size of our Fig. 205½.

One thousand of these Pumps can be transported for two-thirds the cost of same number of regular Pumps.

We build but the leading size as specified below.

No.	Diam. Cyl	Suction.	Gal. per stroke	Price.
2	3 inch.	1¼ inch.	1 8	$4 25

REVOLVING TOP CISTERN PUMPS.

With Bolt Base. Cylinder Bored and Polished. Fitted for Lead or Iron Pipe.

Fig. 200.

No	Dia. Cyl.	Suc.	Iron Price	Br'ss Cyl. Price	Br'ss Price
0	2 in.	1 in.	$ 3 50	$ 5 50	$ 7 75
1	2¼ "	1 "	4 00	6 00	8 75
2	2½ "	1¼ "	4 50	7 00	10 50
3	2¾ "	1¼ "	5 00	8 00	14 00
4	3 "	1¼ "	5 50	10 00	17 00
5	3¼ "	1½ "	6 50	13 00	21 00
6	3½ "	1½ "	8 00	18 00	27 00
8	4 "	2 "	10 00	25 00	35 00

The *brass Pumps* have *all parts brass*, except the lever, bearer and base.

Fig. 203½.

With Brackets.

No	Dia. Cyl.	Suc.	Iron Price	Brass Cyl. Price	Brass Price
0	2 in.	1 in.	$3 50	$ 5 50	$ 7 75
1	2¼ "	1 "	4 00	6 00	8 75
2	2½ "	1¼ "	4 50	7 00	10 50
3	2¾ "	1¼ "	5 00	8 00	14 00
4	3 "	1¼ "	5 50	10 00	17 00
5	3¼ "	1¼ "	6 50	13 00	21 00
6	3½ "	1½ "	8 00	18 00	27 00

The *brass Pumps* have *all parts brass* except the lever, bearer and base.

"STAR" WELL PUMPS. ANTI-FREEZING.

With Cast or Wrought-Iron Connecting Pipe.

Fig. 206.

With Cast-Iron "Set Length."

Fig. 206 is adapted for out-door cisterns and shallow wells, where water is not to be lifted over 20 or 25 feet. It is composed of a standard, cast-iron connecting pipe and cylinder, having the valves in it below the frost line in coldest climates. The internal diameter of the standard is a trifle larger than that of the cylinder; hence the plunger can be drawn up through it, repaired and replaced if necessary.

Number.	Diameter Cylinder.	Suction.	Stroke.	Capacity per Stroke.	Price.
2	2½ in.	1 in.	6 in.	1-10 gal	$7 00
3	2½ "	1¼ "	6 "	1-8 "	7 50
4	2¾ "	1¼ "	6 "	1-7 "	8 00
5	3 "	1¼ "	6 "	1-6 "	8 50

Fig. 207.

With Wrought-Iron "Set Length."

Fig. 207 is appropriate for out-door cisterns and shallow wells, and is also anti freezing by the nature of its construction. By adding to the connecting pipe and piston rod, and so dropping the cylinder further into the well, until it is within 15 to 20 feet of the surface of the water, this Pump could be used in wells from 30 to 40 feet deep.

Height, base to lever top, 33 to 40 inches.

Number.	Diameter Cylinder.	Suction.	Stroke.	Capacity per Stroke.	Price.
1	2¼ in.	1 in.	6 in.	1-10 gal	$7 00
2	2½ "	1¼ "	6 "	1-8 "	7 50
3	2¾ "	1¼ "	6 "	1-7 "	8 00
4	3 "	1¼ "	6 "	1-6 "	8 50
5	3½ "	1¼ "	6 "	1-5 "	9 00

GOULD'S ANTI-FREEZING WELL PUMPS.

FIG. 1018.

Fig. 1018 is our latest design in Anti-Freezing Well Pumps, with wrought iron connecting pipe, for out-door cisterns and shallow wells—dug, drilled or driven—where the water is not more than 25 feet below ground line. The revolving top is recessed or cupped, to admit priming if necessary.

One size, No. 4—3 in. cylinder, 6 in. stroke. Capacity ½ gal. each stroke. Fitted for 1¼ inch wrought iron pipe.

Price $8 00

FIG. 1019.

Fig. 1019 represents same standard as the preceding figure, with revolving tight top cap, polished rod and link above.

Both pumps are tapped for and receive pipe near the spout.

Dimensions and capacity same as Fig. 1018.

Price $8 75

FIG 1020.

Fig. 1020.—The principal feature of these new pumps is the wrought iron pipe stock with base and brace adjustable to any height of lever and spout. Under the base is a heavy malleable pipe nut connecting the standard with set length, to permit extension of set length with the least possible trouble. We can furnish stock or standard complete without set length, adapting it to any style of lower working cylinder.

Made only one size.

No. 4—3 in. cylinder, 6 in. stroke. Capacity ½ gal. per stroke. Tapped for 1¼ pipe.

Price, with iron cylinder ... $9 00
Price, with brass tube cylinder 13 00

FIG. 1039.

Fig. 1039 is a new Anti-Freezing Wind Mill Lift Pump, for shallow wells. The rod is guided above, and moves up and down in a vertical line without oscillating. It has a tight top, against stones or sticks. Wrought iron pipe connects near the spout.

No. 4—3 in. cylinder, 6 in. stroke. Capacity ½ gal. per stroke. Tapped for 1¼ inch pipe.

Price..... $9 00

GOULD'S NEW WELL FORCE PUMPS—ANTI-FREEZING.

Fig. 854.

Fig. 854 represents an entirely new pump we have designed to replace our Fig. 699.

The cut will explain its construction, and at the very low price it is offered it represents good value for a Well Force Pump of this kind. We aim at simplicity of parts, and adequate strength.

Height, base to lever top, 44½ inches.

Fig. 424 represents our No. 1 "New Star" Force Pump Standard, arranged with connecting pipe and cylinder.

When pipe is connected to opening behind the spout, a cock is provided for closing the spout opening. The nose of cock is screwed for 1¼-inch gas pipe thread, and will take ¾-inch hose coupling. Prices given below do not include Cock Spouts. These will be supplied, when ordered, at $2.50, extra list.

Height, base to upper guide, 47 inches.

Fig. 424.

Fig. 854. **Fig. 424.**

No	Diameter Cylinder Inches	Suction Inches	Stroke Inches	Capacity per Stroke Gallons	Price	No	Diameter Cylinder Inches	Suction Inches	Stroke Inches	Capacity per Stroke Gallons	Price
3	2¾	1¼	6	¼	$13 75	3	2¾	1¼	6	¼	$11 25
4	3	1½	6	¼	14 00	4	3	1¾	6	¼	13 50
5	3¼	1½	6	¼	14 50	5	3¼	1½	6	¼	14 00

GOULD'S "NEW STAR" WELL FORCE PUMPS—ANTI-FREEZING.

Fig. 852½.

Fig. 852½ represents a new Well Force Pump we have designed to take the place of our Tube Well Force Pump, Fig. 242.

The Standard is our tallest and heaviest Standard of this class, has our revolving tight top and outlet back of spout for attaching pipe.

Height, base to lever top, 50 inches.

Fig. 882½ is the same in all respects as Fig. 852½, with the addition of a cock on the spout.

A cock is provided, when required, for back opening, same as with Fig. 424, above. The nose of cock is screwed for 1¼-inch gas pipe thread, and will take ¾-inch hose coupling.

Height, base to lever top, 50 inches.

Fig. 882½.

Fig. 852½. **Fig. 882½.**

No	Diameter Cylinder Inches	Suction Inches	Stroke Inches	Capacity per Stroke Gallons	Price	No	Diameter Cylinder Inches	Suction Inches	Stroke Inches	Capacity per Stroke Gallons	Price
3	2¾	1¼	6	¼	$12 25	3	2¾	1¼	6	¼	$ 4 75
4	3	1¼	6	¼	12 50	4	3	1¼	6	¼	14 00
5	3¼	1½	6	¼	13 00	5	3¼	1¼	6	¼	15 50

EMPIRE DOUBLE-ACTING WELL FORCE PUMPS.

For Shallow or Deep Wells—Open, Driven, Drilled or Cased.

Fig. 1027.

Cuts show our Empire Double-Acting Well Force Pump with common and Windmill Top, brass three-way cock and distributing rod, for shallow or deep wells. Briefly described, the Empire Pump consists of a standard with bearer top in one piece, cast in two half sections, bolted, and holding in place two supporting pipes which form respectively the air chamber and discharge pipes connecting with upper cylinder. The upper cylinder is brass lined, and has differential plunger, giving one-half the displacement of lower working cylinder, and contributing to an even and uniform discharge of water. We dispense with all stuffing boxes or glands by this construction, and secure the easiest possible working pump. For lower working cylinder, either our standard pattern iron brass lined cylinder, or brass body cylinder may be used, to adapt pumps to shallow wells or deep wells.

Unless otherwise ordered, we ship all Empire Pumps for shallow wells; with lower working cylinder screwed into upper cylinder, and the universal bushing for bottom of upper cylinder, and top attachment for lower cylinder, tied on.

Where wanted for deep wells, unscrew lower cylinder from upper cylinder; attach *universal bushing* to bottom of latter, and *top cap* to lower cylinder, and connect with pipe and rod required for any depth of well.

Fitted for 1¼ inch pipe, 6 inch stroke. Deduct $2.50 when not wanted with three-way cock.

Fig. 1028.

No.	Diam Lower Cyl.	Gal. Per Stroke	Inside Diam Casing.	Lift and Force.	Brass Lined Cylinder		Brass Body Cylinder	
					Fig. 1027.	Fig. 1028.	Fig. 1027.	Fig 1028
2	2⅝ in.	1·8	4 in.	100 ft	$16 50	$17 00	$18 50	$19 00
4	3 in.	1·6	5 in.	75 ft	17 00	17 50	19 00	19 50

GOULD'S ANTI-FREEZING FORCE PUMPS.

Fig. 1033

Fig. 1033 is an Anti-Freezing Windmill Force Pump, with *vertical distributing valve and brass elbow attachment* at the bottom outlet. We use a regular brass stuffing box above the spout, which prevents all leakage when hose is connected.

Stroke	S'ction	Height Base to Upper Guide.	Length Base to Bottom Flange.	Price.
6 in	1¼ in	46 in.	50 in	$18 00
10 in	2 in	50 in.	56 in.	19 50

Fig. 1045 is same pump, arranged with our brass body and plunger cylinder screwed into lower working head, adapting it to shallow wells. Fitted for ¾-inch hose coupling at spout, and 1-inch iron pipe at brass elbow attachment.

Fig. 1045.

Stroke	Cylinder	S'ction	Price
6 in	2½ x 10	1⅜ in.	$26 00
10 in	2½ x 14	1⅜ in	30 00

HEAVY FORCE PUMP STANDARDS.

For Wells 100 to 300 Feet Deep.

Fig. 593.

Always fitted for 1¼ inch pipe, unless otherwise ordered; but we can fit them for pipe up to 2¼ inches.

Spout is cut for 1¼ inch pipe, and has 1 inch hose tube

No.	Pipe, Inches	Stroke, Inches.	Height, Inches.	Price.
1	1¼	7	51	$20 00
2	Same	as	above	with
	Cock	on	spout	$22 50

Fig. 763.

The cut represents our Extra Heavy Deep Well Force Pump Standard, arranged with brake top, which one or two men can work. Spout is cut for 1¼ inch pipe, and has 1 inch hose tube

Always fitted for 1¼ inch pipe, unless otherwise ordered, but we can fit them for pipe up to 2¼ inches.

No.	Pipe, Inches	Spoke, Inches.	Height, Inches.	Price.
1	1¼	7	51	$21 00
2	Same	as	above	with
	Cock	on	spout	$23 50

Fig. 236.

The cut shows our Fig. 236 Deep Well Pump Standard. We can recommend it for wells of any depth where a hand pump would be used.

Any size pipe from 1¼ to 2 inch can be used with this standard, but always fitted for 1¼ inch unless otherwise ordered

Pipe.	Stroke.	Height.	Price.
1¼ in.	7 in.	51 in.	$10 00

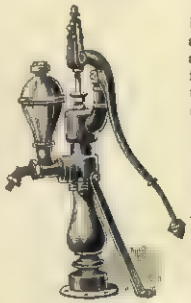


Fig. 237.

Fig. 237 represents our Deep Well Force Pump Standard, being same as Fig. 236, with the addition of an air chamber on the spout. There is a 1 inch half hose coupling and tube for attaching hose on the spout

Always fitted for 1¼ inch pipe, unless ordered to the contrary, but we can fit them for 1¼ or 2 inch pipe when desired.

Cock Spouts, $2.50 extra list.

Pipe.	Stroke.	Height.	Price.
1¼ in.	7 in.	51 in.	$13 00

"STAR" WELL PUMP STANDARDS.

Fig. 846.

Fig. 846 represents our "New Star" Well Pump Standard, with revolving top and solid base, which we can furnish in three sizes, adapted to wells up to 100 feet deep.

The wrought iron connecting pipe screws into standard near the spout, and we always tap as given below, although we can tap for 1¼ or 2 inch pipe, if so ordered.

No.	Pipe.	Stroke.	Height.	Price.
3	1¼ in.	6 in.	43 in.	$5 50
4	1½ in.	6 in	45 in	6 00
5	1¾ in.	6 in.	47 in	6 50

Fig. 850.

Fig. 850 represents our "New Star" Well Pump Standard, with revolving tight top and solid base.

Always tapped near the spout for sizes of wrought iron pipe given below, although we can fit for 1¼ or 2 inch, if so ordered.

No.	Pipe	Stroke	Height	Price.
3	1¼ in.	6 in	43 in	$6 25
4	1½ in	6 in	45 in	6 75
5	1¾ in	6 in.	47 in	7 25

WIND MILL PUMP STANDARDS.

For cylinders to go with these standards, see subsequent pages.

Fig. 764.

Any size from 1¼-inch to 2½-inch pipe can be used with this standard, but always fitted as below unless otherwise ordered.

Wind Mill Slides are not furnished unless especially ordered.

Stroke.	Pipe	Height Base to Upper Guide.	Price.
6 in.	1¼ in.	52⅛ in	$17 00
10 "	2 "	56⅜ "	18 50

Fig. 765.

Fig. 765 represents our new Wind Mill Deep Well Force Pump Standard of extra heavy pattern. They can be fitted for any size from 1¼ to 2½ inch gas pipe, but always fitted as below unless otherwise ordered. The coupling and the tube at the discharge fitted for 1 inch hose. Wind Mill Slides are not sent unless especially ordered.

Stroke.	Pipe.	Height Base to Upper Guide.	Price.
6 in.	1¼ in.	52⅛ in	$21 00
10 "	2 "	56⅜ "	22 50

When ordered with a cock in spout we add $2.50 to list.

Fig. 762.

These standards are tapped for pipe near the spout, have supporting brace, and are a most suitable standard every way. We can fit the 6 inch or 10 inch stroke pumps for 1¼, 1½ or 2 inch pipe, as ordered, but always fit as below, unless otherwise directed. Those tapped for 2 inch pipe have connection for coupling or wood rod. We do not send Wind Mill Slides except when especially ordered.

Stroke.	Pipe. Inches.	No. 3. Price	No. 4. Price.	No. 5. Price
6 in	1¼	$7 00	$7 50	$8 00
10 "	2	.. ..	9 00	9 50

Fig. 402 represents our Sectional Force Pump Standard, suitable for wells about 150 feet deep. The intermediate flange can be screwed for any size of pipe up to and including 2½ inch, but always shipped as below, unless otherwise ordered. The coupling and tube at the spout is fitted for ¾ inch hose. Wind Mill Slides are not furnished unless especially ordered.

Fig. 402.

Stroke.	Pipe.	Height Base to Upper Guide.	Price.
6 in.	1¼ in.	48⅜ in.	$13 50
10 "	2 "	52⅜ "	15 00

We add $2.50 to list when cocks are supplied.

Fig. 422.

These standards are tapped for pipe near the spout. Each one has an outlet back of the spout for attaching pipe, and the spout is provided with ¾ inch hose tube to *screw on*, and not with a cheap clamp.

Always tapped as below, unless otherwise ordered. Wind Mill Slides are not sent unless especially ordered.

Stroke.	Pipe.	No 1. Price.	No 2. Price
6 in.	1¼ in.	$10 00	$11 00
10 "	2 "	11 50	12 50

Fig. 423.

This standard is like Fig. 422, with addition of cock spout. The nose of cock is screwed for 1¼ inch gas pipe thread, and will take ¾ inch hose coupling.

The standards are always tapped for pipe near the spout, as below, unless otherwise ordered. Wind Mill Slides are not sent unless especially ordered.

Stroke.	Pipe.	No 1. Price	No 2. Price.
6 in.	1¼ in.	$12 50	$13 50
10 "	2 "	14 00	15 00

HOUSE SUCTION AND FORCE PUMP.

With Revolving Brake and Brass Piston Rod.

Fig. 390.

No	Diam Cyl Inches	Size A Dis Inches	Iron Price	Brass Cyl Price	Brass Price
2	2	1	$ 8 00	$13 50	$20 00
3	2½	1¼	9 50	14 00	21 00
4	3	1½	11 00	15 00	27 00
6	3½	1¾	17 00	24 00	37 00
8	4	2	18 00	30 00	47 00

The 2, 2½ and 3 inch Pumps work 6 inches stroke, and 3½ and 4 inch, 7½ inches.

Fig. 394.

No	Diam Cyl Inches	Size A Dis Inches	Gal per Stroke	Iron	Brass Cy.	Brass.
2	2½	1¼	¾	$12 50	$18 00	$23 50
4	3	1½	1	14 00	19 00	25 00
6	3½	1¾	1½	21 00	29 50	42 50
8	4	2	2	29 00	39 00	52 50

The 2½ and 3 inch Pumps work 6 inches stroke, and 3½ and 4 inch, 7½ inches.

Fig. 391.

No	Diam Cyl Inches	Size A Dis Inches	Iron Price.	Brass Cyl Price	Brass Price
2	2	1	$ 8 00	$13 50	$20 00
3	2½	1¼	9 50	14 00	21 00
4	3	1½	11 00	15 00	27 00
6	3½	1¾	17 00	24 00	37 00
8	4	2	18 00	30 00	47 00

The 2, 2½ and 3 inch Pumps work 6 inches stroke, and 3½ and 4 inch, 7½ inches.

Fig. 395.

No	Diam Cyl Inches	Size A Dis Inches	Gal per Stroke	Iron	Brass Cyl	Brass.
2	2½	1¼	¾	$12 50	$18 00	$23 50
4	3	1½	1	14 00	19 50	25 00
6	3½	1¾	1½	21 00	29 50	42 50
8	4	2	2	29 00	39 50	52 50

The 2½ and 3 inch Pumps work 6 inches stroke, and 3½ and 4 inch, 7½ inches.

GOULD'S "PACIFIC" SUCTION AND FORCE PUMP.

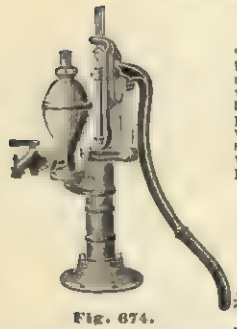


Fig. 674.

When arranged with forked or crotched rod, as shown above, *instead* of the lever and bearer to connect to wood rod of windmill, no extra charge.

SINGLE-ACTING.

Figure 674 represents our "Pacific" Force Pump on base for hand or wind mill use. They are made in the very best manner, and combine strength with graceful proportions. All are made with brass cased rods, brass stuffing box, and provided with iron cocks with brass plugs. Stroke, 6¼ inches.

No	Diam Cyl Inches	Size A Dis Inches	Iron Price	Brass Cyl Price	Brass Price
2	2½	1¼	$14 50	$20 00	$25 50
4	3	1½	16 50	21 50	37 50
6	3½	1¾	24 00	32 00	46 00
8	4	2	25 50	38 00	55 50

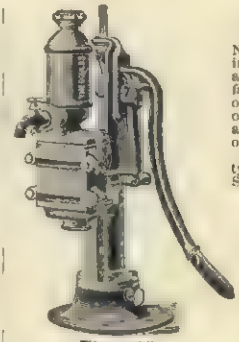


Fig. 840.

DOUBLE-ACTING.

Figure 840 represents our New "Pacific" Double-Acting Force Pump. The valves are made of bronze, rubber faced. Suction and discharge openingscan be fitted for 1¼ or 2-inch pipes, but always fit as below unless otherwise ordered

Plugs are provided for emptying Pump in cold weather. Stroke, 6 inches.

No	Diam Cyl Inches	Size A Dis Inches	Gal per Stroke	Iron Price	Brass Lined Price
2	2½	1¼	¾	$25 00	$27 00
4	3	1½	1	30 00	32 50

Pearl Agate Tea and Coffee Pots.

Patent Enameled Wood Handles and Nickel Plated Covers. Bodies Handsomely Mottled Outside in Colors. White Porcelain Inside.

Tea.

No.	[illegible]	[illegible]	[illegible]	[illegible]
Pints.	3	4	[illegible]	6
Per Dozen	$[illegible]	19 00	21 00	23 00

Coffee.

No.	[illegible]	[illegible]	[illegible]	[illegible]
Pints.	3	4	[illegible]	6
Per Dozen	$17 00	19 00	[illegible]	[illegible]

ONE IN A PACKAGE.

White Metal Mountings and Copper Protection Bands.

Tea

No.	[illegible]	[illegible]	[illegible]
Pints.	3	[illegible]	[illegible]
Per Dozen,	$25 00	27 00	[illegible]

Coffee.

No.	[illegible]	8765	8766
Pints.	4	5	6
Per Dozen,	$22 00	[illegible]	$[illegible]

ONE IN A PACKAGE.

Pearl Agate Tea and Coffee Pots.

Nickel Plated Cover.

Enameled Wood Handle.

White Porcelain Inside.

Assorted Decorations.

Tea.

No.	5352	5353	5354	5355	5356
Pints,	2	3	4	5	6
Per Dozen,	$19 00	21 00	23 00	25 00	27 00

ONE IN A BOX.

Nickel Plated Cover.

Enameled Wood Handle.

White Porcelain Inside.

Assorted Decorations.

Coffee.

No.	8563	8564	8565	8566	8568
Pints,	3	4	5	6	8
Per Dozen,	$21 00	23 00	25 00	27 00	30 00

ONE IN A BOX.

Pearl Agate Tea and Coffee Pots.

Nickel Plated Mountings and Copper Protection Bands.

White Porcelain Inside.

Decoration D.

Tea

No.	0753	0754	0755
Pint	1	1	1
Each	$3 25	3 50	3 75

ONE IN A BOX.

Nickel Plated Mountings and Copper Protection Bands

White Porcelain Inside

With Deep Infusion Sacks.

Decoration D

Coffee

No.	08504	08505	08786
Pints	4	5	6
Each	$4 00	4 25	4 50

ONE IN A BOX.

Pearl Agate Tea Pots.

Nickel Plated Mountings and Copper Protection Bands.

White Porcelain Inside

Fluted Pattern, with Hard Metal Covers.

Decoration A A.

Tea

No.	8053	8054	8055
Pints,	3	4	5
Each,	$4 75	6 00	7 50

ONE IN A BOX.

Nickel Plated Mountings and Copper Protection Bands.

Oval Pattern.

White Porcelain Inside

Decoration S

Tea

No.	8953	8954	8955
Pints,	3	4	5
Each,	$5 50	6 00	7 50

ONE IN A BOX.

Pearl Agate Tea and Coffee Pots.

Nickel Plated Mountings and Copper Protection Bands.

White Porcelain Inside.

Assorted Blue and Pink.

Decoration H.

Tea

No.	9253	9254	9255	9256
Pints	3	4	5	6
Each	$4 75	$5 25	$5 75	$6 25

ONE IN A BOX.

Nickel Plated Mountings and Copper Protection Bands

White Porcelain Inside.

With Deep Infusion Sacks.

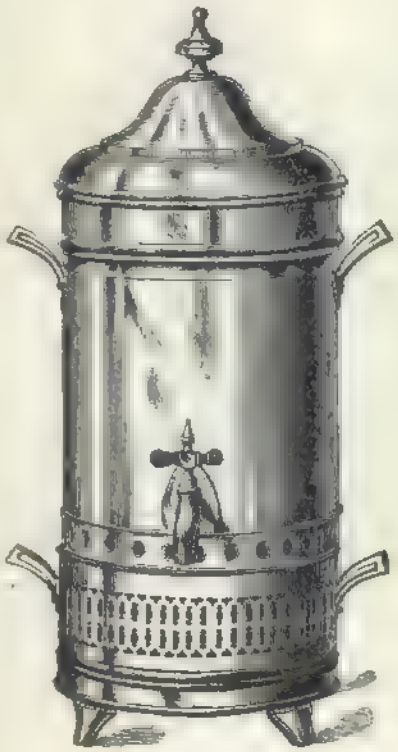
Decoration H.

Coffee.

No.	2064	2065	2066
Pints	4	5	6
Each	$6 00	$ 50	7 00

ONE IN A BOX.

Coffee Urns.



No. 7012.

No. 2816.

NO	DESCRIPTION	EACH
7012	12 Quart, Extra Planished Tin, Copper Lined, Heavily Coated with Tin, with Kerosene Heater,	$10 50
2816	16 Quart, Extra Planished Tin, Copper Lined, Heavily Coated with Tin, with Textile Filter, Indicator, and Kerosene Heater,	22 50

Granite Iron Ware.

White Metal Trimmings.

Tea and Coffee Pots.

No.	3153	3154	3155	3156
Pints.	3	4	5	6
Per Dozen,	$28 00	31 00	34 00	37 00

ONE IN A PACKAGE.

Butter Dish.

No.	3151
Per Dozen,	$30 00

Slop Bowl.

No.	3151
Per Dozen,	$20 00

Cream Pitcher

No.	3151
Per Dozen,	$22 00

Sugar Bowl.

No.	3151
Per Dozen	$25 00

ONE IN A BOX.

Tea and Coffee Pots, Britannia Trimmed

No.	5453	5454	5455	5456
Pints,	3	4	5	6
Per Dozen,	$20 00	22 00	24 00	27 00

ONE IN A PACKAGE.

Tea and Coffee Pots.

White Metal Mountings and Copper Protection Bands. Granite Iron, Fluted Pattern.

Tea.

No.	4653	4654	4655
Pints,	3	4	5
Per Dozen,	$30 00	33 00	36 00

ONE IN A PACKAGE.

White Metal Mountings and Copper Protection Bands. Pearl Agate, White Porcelain Inside.

Tea.

No.	08653	08654	08655
Pints,	3	4	5
Per Dozen,	$32 00	35 00	38 00

ONE IN A PACKAGE.

Planished Tin.

With Seamless Granite Iron Bottoms.

Tea.

No.	7153	7154	7155	7156
Pints,	3	4	5	6
Per Dozen,	$17 00	19 00	21 00	24 00

ONE IN A PACKAGE.

Granite Iron.

With Deep Infusion Sacks.

Coffee.

No.	4704	4705	4706
Pints,	4	5	6
Per Dozen	$30 00	33 00	36 00

ONE IN A PACKAGE.

Rifle and Pistol Material.

The great number and variety or multiplicity of REPAIR PARTS FOR RIFLES and REPAIR PARTS FOR PISTOLS, on account of the many changes in models, makes it impossible to catalogue these complete.

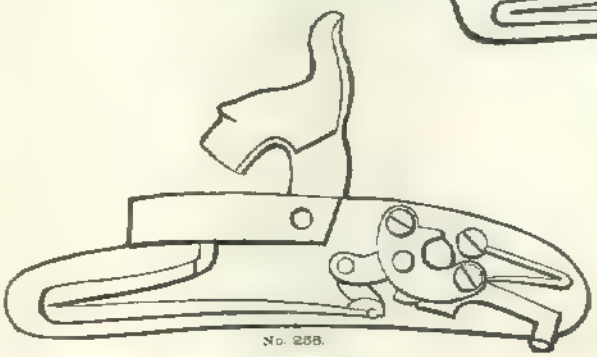
For the benefit of our Gunsmith trade we carry in stock the most essential parts of the STANDARD MATERIAL used in the MACHINE MADE arms which we handle.

Such parts as we do not carry regularly in stock, we will obtain from the manufacturers, and with the least delay possible.

Gun Material.

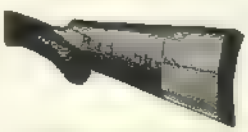
No. 290

No. 282.

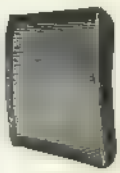


No. 288.

No. 287



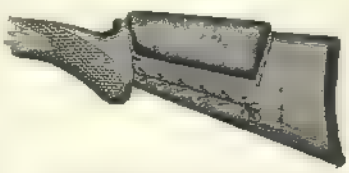
Rudolph's Laced Recoil Pad.



No. 88.

Rudolph's Adjustable Recoil Pads.

Gun Stock.



Rudolph's Adjustable Cheek Pad.

No. 184.

No. 188.

No. 100.

No. 110.

Main Springs.

Nos. 100 and 102.

Nos. 104 and 106.

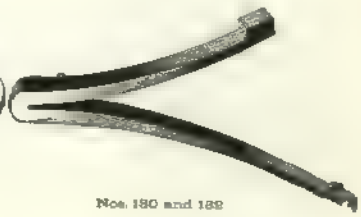
Nos. 112 and 114.

Nos. 120 and 122.

Nos. 124 and 126.

Nos. 127 and 128.

Nos. 134 and 136.



Nos. 180 and 182.

Gun Stocks.

NO.	DESCRIPTION	EACH.
0	American Walnut Gun Stocks,	$0 45
5	English Walnut Gun Stocks,	90
10	English Better Grade Gun Stocks,	1 10
15	English Better Grade Gun Stocks,	1 70
25	English Fine Curly Gun Stocks,	3 85
35	English Very Best Curly Gun Stocks,	5 00

Main Springs.

NO.	DESCRIPTION.	PER DOZ.
100	Right Hand Front Action Hook,	$2 00
102	Left Hand Front Action Hook,	2 00
104	Right Hand Front Action Swivel,	2 00
106	Left Hand Front Action Swivel,	2 00
108	Right Hand Bar Action Hook,	2 00
110	Left Hand Bar Action Hook,	2 00
112	Right Hand Bar Action Swivel,	2 00
114	Left Hand Bar Action Swivel,	2 00
116	Right Hand Back Action Hook,	2 00
118	Left Hand Back Action Hook,	2 00
120	Right Hand Back Action Swivel,	2 00
122	Left Hand Back Action Swivel,	2 00
124	Right Hand Back Action Comb. M & S. Swivel,	2 40
126	Left Hand Back Action Comb. M & S. Swivel,	2 40
127	Right Hand Back Action Comb. M & S. Hook,	2 40
128	Left Hand Back Action Comb. M. & S. Hook,	2 40
130	Right Hand Bar Rebounding Swivel,	6 00
133	Left Hand Bar Rebounding Swivel,	6 00
134	Right Hand Back Action Rebounding Swivel,	6 00
136	Left Hand Back Action Rebounding Swivel,	6 00
216	Right Hand Back Action Belgian,	2 40
218	Left Hand Back Action Belgian,	2 40
234	Right Hand Back Action Belgian Rebounding,	6 00
236	Left Hand Back Action Belgian Rebounding,	6 00

Gun Locks.

NO	DESCRIPTION	PER DOZ.
250	American, Right Hand Back Action,	$ 9 50
252	American, Left Hand Back Action,	9 50
254	American in Pairs, Back Action, per doz. pair,	18 00
275	Goulcher, Right Hand Back Action	18 75
277	Goulcher, Left Hand Back Action,	12 75
279	Goulcher, in Pairs, Back Action, per doz. pair,	24 80
256	American, Right Hand Front Action,	9 50
258	American, Left Hand Front Action,	9 50
260	American, in Pairs, Front Action, per doz. pair,	18 00
281	Goulcher, Right Hand, Front Action,	12 00
283	Goulcher, Left Hand, Front Action,	12 00
285	Goulcher, in Pairs, Front Action, per doz. pair,	24 00
262	American, Right Hand Bar,	9 50
264	American, Left Hand Bar,	9 50
266	American, Bar, in Pairs, per dozen pair,	18 00
289	Goulcher, Right Hand Bar,	15 00
291	Goulcher, Left Hand Bar,	15 00
293	Goulcher, Bar, in Pairs, per dozen pair,	30 00
287	Goulcher, Front Action, Right Hand, Cut for Plug	12 75
184	Side Pins, Threaded	20
186	Cross Pins, Threaded	20

All our Locks are Polished and Engraved.

Gun Stock Trimmings and Recoil Pads.

NO.	DESCRIPTION.	PER DOZ
100	Rubber Butt Plates, Finished and Fancy Pattern	$9 00
102	Horn Butt Plates,	5 75
110	Horn Grip Caps, Fluted,	5 75
88	Black Rubber Recoil Pads,	5 75
90	Red Corrugated Recoil Pads,	12 00
91	Rudolph's Self-Adjusting Recoil Pads,	10 80
92	Rudolph's Laced Recoil Pads	13 50
93	Rudolph's Adjustable Cheek Pad, for Shot Gun or Rifle,	18 00

Gun Material.

Nos 205 and 209

Nos 160 and 162.

Nos. 176 and 178.

No. 220.

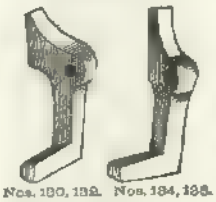
Nos. 164 and 166.

Nos. 180 and 182.

Nos. 215 and 219

No. 204

Nos. 168 and 170.


Nos. 180, 182. Nos. 184, 186.

No. 206.

Nos. 172 and 174.

188, 140, 142, 144.

Nos. 205, 207.

Gun Hammers.

NO.	DESCRIPTION.	PER DOZ.
200	Stamped Gun Hammer, Right and Left,	70
204	Stamped Gun Hammer, Right and Left, Large	1 10
206	Fluted Gun Hammer, Right and Left,	1 80
208	Filed, Beveled, Right and Left,	4 60
206	Polished and Engraved, Right and Left,	2 25
207	Polished and Engraved, Right and Left, Large,	3 60
208	Stamped B.-L., Right and Left, Small,	1 20
210	Stamped B.-L., Right and Left, Medium,	1 20
212	Polished and Engraved, B. L., Small,	6 30
214	Polished and Engraved, B.-L., Medium,	6 30
215	Lefaucheaux B.-L. Hammers, Filed,	5 40
219	Same as No. 215, Stamped,	2 25
220	English Circular Hammer, Filed Right and Left,	10 80
221	Belgian Circular Hammer, Filed Right and Left,	7 20
222	Belgian Filed Flat B.-L. Hammers,	3 60

Sears and Sear Springs.

NO.	DESCRIPTION.	PER DOZ.
130	Right Hand Filed Sears,	$1 00
132	Left Hand Filed Sears,	1 00
134	Right Hand Forged Sears,	50
136	Left Hand Forged Sears,	50
138	Right Hand Front Action Sear Spring,	1 25
140	Left Hand Front Action Sear Spring,	1 25
142	Right Hand Back Action Sear Spring,	1 25
144	Left Hand Back Action Sear Spring,	1 25

Tumblers,

NO.	DESCRIPTION.	PER DOZ
160	Right Hand Front Action Hook Tumbler,	$1 25
162	Left Hand Front Action Hook Tumbler	1 25
164	Right Hand Back Action Hook Tumbler,	1 25
166	Left Hand Back Action Hook Tumbler,	1 25
168	Right Hand Front Action Swivel Tumbler,	1 60
170	Left Hand Front Action Swivel Tumbler,	1 60
172	Right Hand Back Action Swivel Tumbler,	1 60
174	Left Hand Back Action Swivel Tumbler,	1 60
176	Right Hand Bar Rebounding Swivel Tumblers,	4 90
178	Left Hand Bar Rebounding Swivel Tumblers,	4 90
180	Right Hand Front Action Bar Rebounding Swivel Tumblers,	4 90
182	Left Hand Back Action Bar Rebounding Swivel Tumblers,	4 90

No. 190

No. 192.

No. 194.

190	Tumbler Pins, Threaded,	$ 35
192	Inside Lock Screws,	80
194	Tumbler Swivels,	80

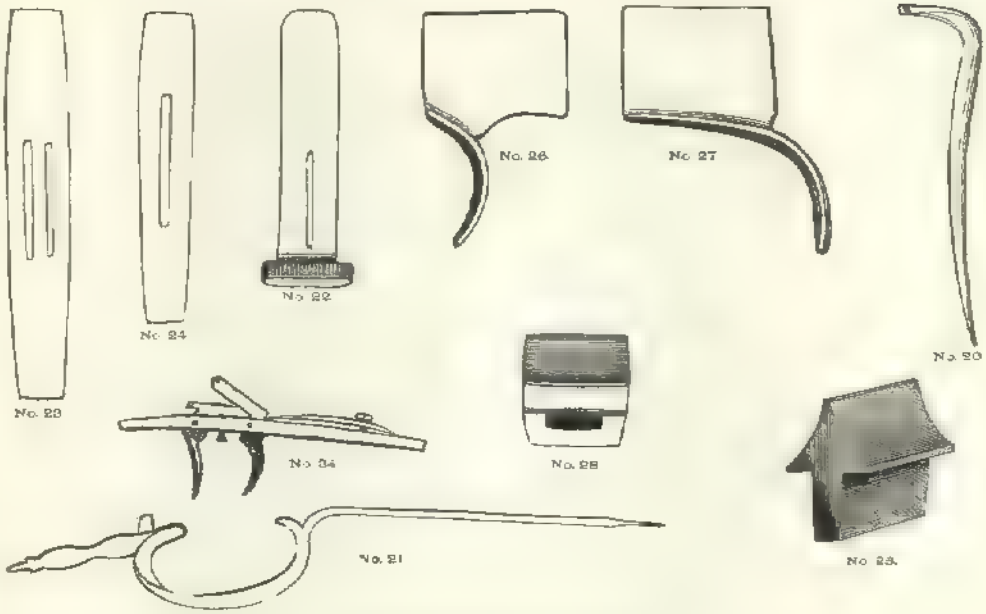
Gun Material.

NO.	DESCRIPTION.	PER DOZ
41	Milled Fore Ends,	$7 20
42	Tail Pins for Single Guns, Long, Forged,	1 25
43	Tail Pins for Single Guns, Short, Forged,	95
44	Break-offs for Double Guns, Short, Forged,	3 60
45	Break-offs for Double Guns, Long, Forged,	4 50
46	Patent Breech, Double Guns, 1⅛ inch, Forged,	5 40
47	English Side Snap Levers, Finished and Blued,	9 60
47½	Belgian Side Snap Levers, Finished and Blued,	9 60
48	English Side Snap Lever Springs, Finished and Blued,	4 80
48½	Belgian Side Snap Lever Springs, Finished,	1 25

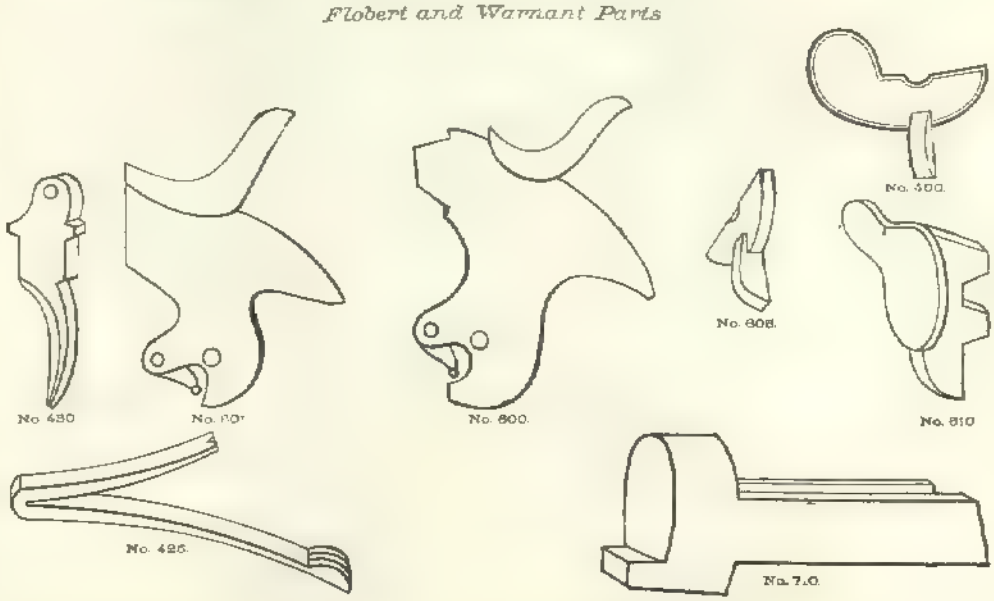
NO.	DESCRIPTION.	PER DOZ
49	Top Snap Levers, Finished and Blued,	$14 40
50	Top Snap Lever Springs, A, B, C, D, E,	5 40
51	Extractors, Milled,	7 20
52B	Fore End Snap Spring, Bonehill,	7 20
52C	Fore End Snap Spring, Clabrough,	7 20
53	Horn Fore End Tip, Unfinished,	1 25
54	Double B.-L. Gun Furniture, Wrought, Spring Triggers, per set,	3 60
55	Belgian Double Gun Furniture, with Plain Triggers, Filed,	2 50
125	Mainspring Vise,	18 50
150	Gun Screw Plate, each,	3 75

Gun Material.

Malleable Shot Gun Parts and Rifle Mountings.

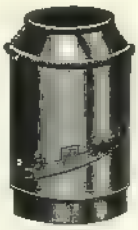


Flobert and Warnant Parts

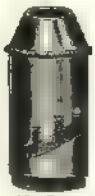


Gun Material.

Rifle and Shot Gun Parts. Flask and Pouch Material.



No. 732
4 to 6 Drams.



No. 731
3 to 4 Drams.

No. 939.
Patent Outside Spring.

No. 937.
Common Outside Spring.

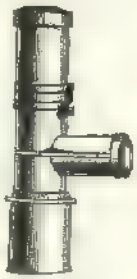
No. 938.
Inside Spring.

No. 948.
Inside for Patent Charger.

No. 947.
Inside for Irish Charger.

No. 949.
Inside for Capewell's.

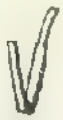
No. 1060.
Lever Charger.



No. 946.
Capewell's.

No. 940.
Irish Charger.

No. 969.
Lever Charger Cutter.



No. 967.
Lever Charger Spring.

Malleable Shot Gun Parts.

NO.	DESCRIPTION.	PER DOZ.
20	Hee Plates, Malleable Iron,	$1 95
21	Guards, Malleable Iron for Muzzle Loaders,	1 95
24	Guards, Malleable Iron for Breech Loaders,	1 95
22	Bolts, Malleable Iron,	80
23	Trigger Plates Double, Malleable Iron,	80
24	Trigger Plates, Single, Malleable Iron,	80
25	Bolt Loops B. L., Malleable Iron,	70
28	Bolt Loops M. L., Malleable Iron,	50
26	Trigger Rigs, Hand Malleable Iron,	35
27	Triggers Left Hand, Malleable Iron,	85

Rifle Mountings.

NO.	DESCRIPTION.	PER DOZ.
30	Guards Brass,	$3 20
31	Heel Plates, Brass,	2 30
32	Nose Caps, Brass,	1 60
33	Patch Boxes, Brass,	2 20
34	Double Triggers, Wrought Iron,	7 33

Flobert Rifle Parts.

NO.	DESCRIPTION.	EACH.
400	Flobert Thumb Extractor,	$0 30
425	Flobert Main Spring,	50
450	Flobert Trigger,	30
47	Flobert Trigger Springs,	30
600	Flobert Hammer, Remington Action Cut Nose,	1 00
601	Flobert Hammer, Remington Action, Straight Nose,	1 00
605	Flobert Extractor for Remington Action,	20
610	Flobert Breech Block for Remington Action,	50

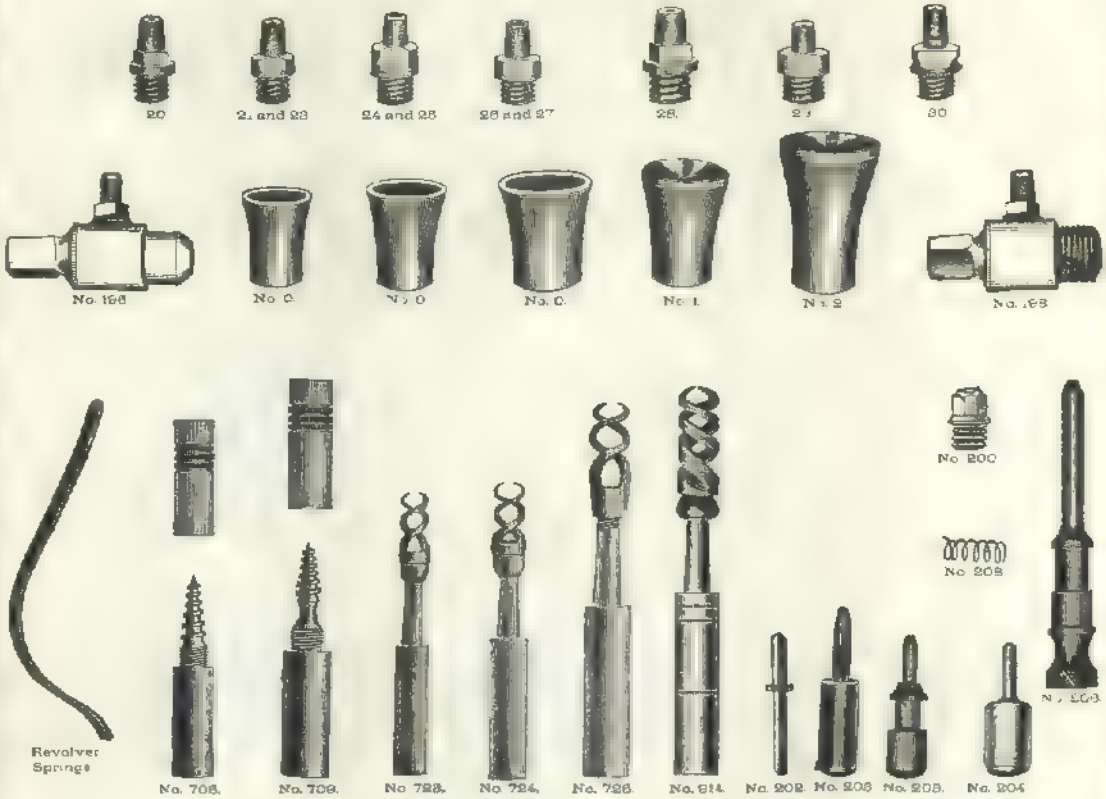
Rifle Parts.

NO.	DESCRIPTION	EACH.
625	Remington Action Breech Block, Latest Style,	$0 60
626	Remington Action Breech Block Springs,	20
700	Warnant Hammer,	1 30
705	Warnant Extractor,	60
710	Flobert Breech Block, Warnant Action,	1 20
809	Warnant Hammer, New Model,	1 50
805	New Warnant Extractor, Light,	40
806	New Warnant Extractor, Heavy,	40
810	New Warnant Breech Block, Light	1 10
811	New Warnant Breech Block, Heavy,	1 10
910	New Warnant Breech Block, 32 Caliber,	1 40
915	Flobert Front Sights,	15
920	Flobert Rear Sights,	15

Price List of Flask and Pouch Material

NO.	DESCRIPTION.	PER DOZ.
730	Flask Chargers, 2 to 3 Drams,	$1 67
731	Flask Chargers, 3 to 4 Drams,	2 18
732	Flask Chargers, 4 to 6 Drams,	4 84
969	Lever Charger Cutter,	1 50
967	Lever Charger Spring,	67
968	Patent Charger Spring,	1 00
937	Outside Flask Spring for Common Top,	67
939	Outside Flask Spring for Patent Top,	2 17
938	Inside Flask Spring,	67
940	Irish Chargers,	2 34
942	Screw Off Patent Chargers,	5 00
1060	Lever Chargers 1½ to 2 oz.,	4 76
94	Capewell's Patent Screw Off Chargers	5 25
947	Inside Chargers for Irish Top	1 33
948	Inside Chargers for Patent Top,	1 66
949	Inside Chargers for Capewell's Top,	1 33

Gun Material.



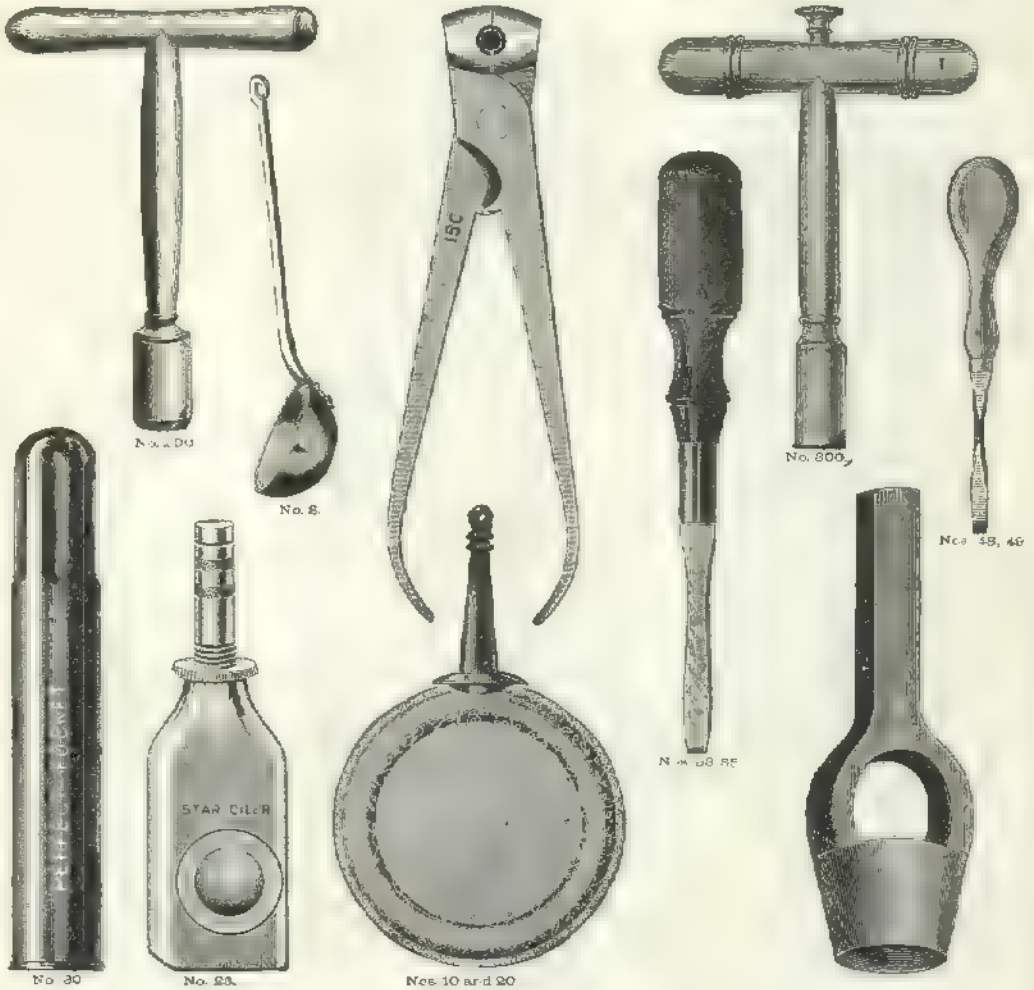
Gun Tubes.

NO.	DESCRIPTION	PER GR.
20	Square Shoulder, Blue, Taper,	$ 3 75
21	Flat Shoulder, Brown, Taper,	5 25
23	Flat Shoulder, Brown, Taper, Bright End, Fine Polish,	9 00
24	Flat Shoulder, Brown, Taper, Reversed,	9 00
25	Flat Shoulder, Brown, Taper, Reversed, Bright End, Fine,	10 50
26	Flat Shoulder, Brown, Taper, Double Reversed,	13 50
27	Flat Shoulder, Brown, Taper, Double Reversed, Bright End, Very Fine,	15 60
28	Square Shoulder Musket,	12 00
29	Flat Shoulder Musket, with Sporting Top, for Regular Gun Caps,	12 00
30	Flat Shoulder, Belgian Taper, with Washer	12 00
122	Flat Shoulder, Brown, Bright End, Mounted on Cards of One Dozen, see Cut No. 21,	12 00
124	Flat Shoulder, Brown, Reversed, Mounted on Cards, of One Dozen, see Cut No. 24,	13 50

Rod Heads, Wormers, Etc.

NO.	DESCRIPTION	PER DOZ
0	Brass Open End Ramrod Heads, assorted,	$ 45
1	Brass Solid Head Ramrod Heads, ⅜ inch,	85
2	Brass Solid Head Ramrod Heads, or large, ½	1 15
706	Small Brass Wormers, for Rifle Rods,	75
709	Large Brass Wormers, for Rifle Rods,	1 15
710	Large Iron Wormers, for Musket Rods,	1 50
723	Small Iron Wormers, Reverse,	70
724	Small Brass Wormers, Reverse,	75
726	Large Brass Wormers, Reverse,	1 80
914	Standard Large Brass, Reverse,	3 00
196	Plain Plug and Nipple, ¼ inch,	1 15
198	Threaded Plug and Nipple, ¼ inch,	1 50
200	Nipple Seat,	1 40
202	Plain Plunger or Firing Pin,	60
203	Solid Head Plunger for Belgian Gun	1 70
204	Solid Head Plunger or Firing Pin,	1 70
205	Bone Hd. Plunger or Firing Pin,	2 25
206	Zulu Plunger,	3 85
208	Plunger Springs,	80
209	Plunger Screws,	80
210	Zulu Plunger Springs,	1 10
214	Revolver Main Springs, 22 Caliber,	1 80
215	Revolver Main Springs, 32 Caliber,	2 25

Gun Material.



NO.	DESCRIPTION.	PER DOZ.
200	Muzzle Loading Nipple Wrench, T Handle,	$3 00
300	Muzzle Loading Nipple Wrench, Pricker,	6 00
	Assorted Bullet Molds, Nos. 32 to 150,	1 50
	Assorted Bullet Molds, Nos. 21 to 30,	2 45
	Assorted Bullet Molds, Nos. 17 to 20,	3 75
	Assorted Bullet Molds, Nos. 12 to 16	4 85
3	Melting Ladles, 3 inch Bowl,	2 00
3½	Melting Ladles, 3½ inch Bowl,	2 25
4	Melting Ladles, 4 inch Bowl,	2 55
4½	Melting Ladles, 4½ inch Bowl,	3 00
5	Melting Ladles, 5 inch Bowl,	3 50
30	Cushman & Dennison Pocket Oilers,	2 25
35	Star Oilers, Brass, Nickel Plated,	1 35

NO.	DESCRIPTION.	PER DOZ.
10	Pocket Oiler, Nickel, Fancy Vine Pattern,	$1 95
20	Pocket Oiler, Gilt, Fancy Vine Pattern,	1 50
48	Gunsmith's Screw Drivers, Round Shank, 2 inch, see cut,	2 45
49	Gunsmith's Screw Drivers, Round Shank, 3 inch, see cut,	2 80
53	Gunsmith's Screw Drivers, Octagon Handle, 2 inch, see cut,	4 50
55	Gunsmith's Screw Drivers, Octagon Handle, 3 inch, see cut,	5 45
800	Gun Gauges,	27 00
	Wad Cutters, Steel, 8 or 9 Gauge,	3 00
	Wad Cutters, Steel, 10 to 20 Gauge,	1 80

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUNCH & DIE WORKS

SAW MAKERS' HAMMERS AND ANVILS AND GUMMERS.

Fig. 1648

Anvils, Hammers, Straight Edges for Hammering Saws.

SAW MAKERS' HAMMERS.

2½ to 3 pounds	$1 60 each
3½ to 4 "	2 00 "
4½ to 6 "	3 20 "

SAW MAKERS' ANVILS.

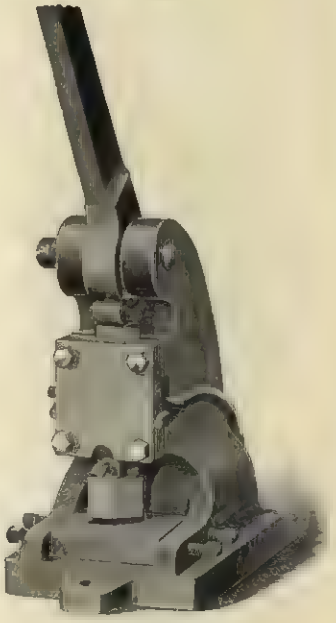
Face....5½x8 inches Height.. 6 " Weight . 70 pounds.	$11.50 each
Face 5½x8 inches Height.. 7½ " Weight.. 100 pounds.	$15.00 each
Face. . 6 x10 inches Height 8½ " Weight . 150 pounds.	20.00 each

SAW MAKERS' STRAIGHT EDGES.

12	18	24	30	36	40 inch.
$0 85	1.25	1.75	2.20	2.60	3.00 each.
44	48	52	54	58	62 inch.
$3 50	4.00	4.65	5.00	5.60	6.50 each.

Special sizes to order, special prices.

Fig. 1649



BAND SAW GUMMER.

Weight . . . . . 65 pounds

Price $18 00

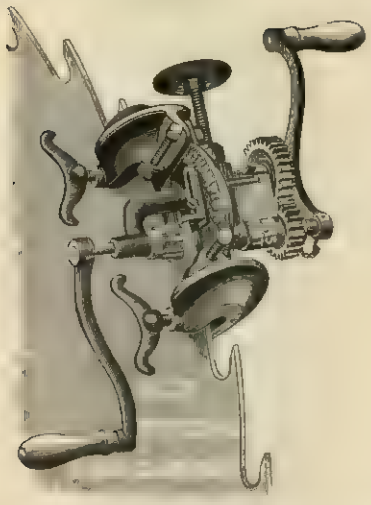
For Band Saws and Cross-cut Saws, but more especially for Band Saws. Extra dies or parts of above furnished on application.

Punch and Die . . . each, $7.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

GUMMERS.

Fig. 1650



MIXTER'S CELEBRATED CHAMPION GUMMER.

With Patent Automatic Feed Attachment.

The Champion has the lateral or oscillating movement of the Cutter, and is fully adjustable to all kinds of Saws, from the largest Circular to the smallest in general use. Also, Mill and Cross-cut Saws. The line of the teeth can be cut at any angle desired from horizontal to perpendicular. It cuts very rapidly, and no risk of bending, breaking, or case-hardening the saw.

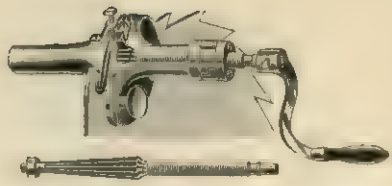
It is also self-adjusting, throwing itself out of gear when the teeth are cut to the desired depth. The feeding process is so true and even, and is so far superior to the old hand feed that we can harden our Cutters to the very highest temper with little or no danger of breaking (which is often the case caused by irregularity of hand-feeding) and the cutters will wear at least three times as long.

We guarantee it to be the MOST PERFECT GUMMER EVER MADE. It will pay you to throw away your old Gummer and order the Champion.

The above engraving represents Mixter's famous Champion Gummer, with the new Patent Adjustable Automatic Feed Attachment, that can be regulated at will to feed faster or slower, according to the work to be performed; and can be changed in an instant from self-feeding to hand-feeding. In short it is the "Boss Gummer of the world."

Price of Gummer with three Cutters, Grinder and Wrench..... $20.00

Fig. 1651



THE CRESCENT GUMMER.

The "Crescent" Gummer is constructed on an entirely new principle.

Its reamers are unlike those gummers whose reamers are short, and feed down into the saw and are so easily worn out. They are long, tapered reamers, which start to cutting at their smaller end, and are fed automatically and horizontally to the saw, thus making a smooth, clean cut their entire length. One reamer will last for years, with proper use. The reamers are made in three sizes, viz: Nos. 1, 2 and 3, so that the machine is suitable for any size or kind of circular saw. It has automatic gaugers, so that every tooth will be made the same and the saw kept in balance. It is very easy to operate, not requiring one-fourth the power used on the short down feed reamers on other gummers. A sixty-inch saw can be gummed in one hour, with ease, without removing it from the arbor.

The workmanship of the "Crescent" is of the very finest. The reamers are made from extra fine imported steel made especially for this purpose, and great care is used in their manufacture. The machine is light, weighing about 9 pounds, and is finely finished throughout. All parts are made interchangeable, so that repairs may be had at a small cost. Three reamers go with each gummer.

Price..... $15.00
Extra reamers, each 1.50

QUEEN CITY SUPPLY CO. CINCINNATI, O.

POCKET PUTTY PREP'D

MACHINE KNIVES.

Price List of Planing Machine Knives and other ordinary Straight Knives of same finish, 3-8 of an inch thick or less.

Price Per Inch.	Over 6 to 31 long.	Over 31 to 40	Over 40 to 50	Over 50 to 60	Over 60 to 70
4 inches wide or less.	12	14	16	19	22
Over 4 to 4½ inches.	15				
" 4½ to 5 "	18				
" 5 to 5½ "	21				
" 5½ to 6 "	24				
" 6 to 6½ "	27				
" 6½ to 7 "	30				
" 7 to 7½ "	33				
" 7½ to 8 "	36				

Figure prices at the actual measurement, viz. 24¼, 50½, etc. Knives wider in one place than another, or thicker in one part than another, must be figured by list, of widest and thickest measurement. Knives must be also measured by longest length, whether it be a cutting edge or back. All knives that are longer or wider than are included in this list (unless otherwise provided for under another heading) shall be classed as special and charged for by the *Special List*. Advance for extra thickness on all knives.

Over 3/8 to 1/16 thick	10 per cent.	Over 7/8 to 1 "	35 per cent
" 1/16 to 1/2 "	15 "	" 1 to 1½ "	50 "
" 1/4 to 5/8 "	20 "	" 1½ to 1¾ "	75 "
" 5/8 to 3/4 "	25 "	" 1¾ to 2 "	100 "
" 1/4 to 1/4 "	30 "		

Straight Knives, 6 inches long or less. (3-8 inch thick or less.)

2 inches long or less, 4 inches wide or less.....50 cents each.
Over 2 to 4 inches long, 4 inches wide or less.....62 "
Over 4 to 6 inches long, 4 inches wide or less.....75 "
If over 4 inches wide, increase ⅛ for each one inch or fractional part thereof.
Advance for extra thickness.

All Flat Knives (⅜ inch thick or less) with regular edges, not moulding knives, add 50 per cent to list of straight knives, 6 inches long or less; for small knives, to list of ordinary knives, if over 6 inches long. (This covers all knives with slightly convex, concave, angular or irregular edges of any description which can be done on a grindstone.) Figure price by measurement at widest part of knife.

Advance for extra thickness. **Irregular Knives** not otherwise provided for, extra price to cover increased cost.

Blank Bits.

2 inches long or less.....25 cts. each.
2 to 3 inches long.....35 "
3 to 4 " " .....45 "
4 to 5 " " .....55 "

Moulding Bits.

Made to any pattern, 35 cents per inch; Thin Knives 12 gauge to any pattern, 9 cents per inch.

Fig. 1652

In our many years' experience catering to the wants of the lumber trade, we have often been asked to supply a crayon that would mark easily and distinctly on wet and dry lumber alike. We have therefore made a study of the matter, and have succeeded in finding the proper combination to produce such results, and we now offer to the trade under the brand of WATERPROOF LUMBER CRAYONS, an article that meets all requirements. It is a great improvement over the old style of graphite pencil, marks plainer and with less effort, and the marks are durable and not effected by wet weather. We offer them to the trade at a very low price for so excellent an article. Hard Grade. Marks easily and very durable.

No. 311. Black.....Price per dozen, 50 cents.....per gross, $6.50
" 312. Blue..... " " 60 " ..... " 7.00
" 313. Red..... " " 65 " ..... " 7.50

All of our Crayons packed one dozen in a box. Orders Solicited.

Crayons.

Prepared Chalk.....per box, White, $0.65	Red, $0.85	Blue, $1.00
Crayon.....per gross, " 0 20	" 0.65	" 0.75

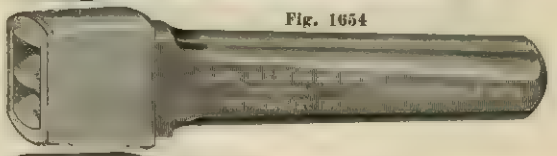
SAW SWAGES, ETC.

QUEEN CITY SUPPLY CO CINCINNATI, O.

Fig. 1653 CONQUEROR.

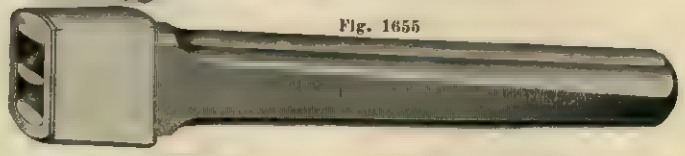
No. 3—For Small Circular Saws, $2.00

Fig. 1654



No. 2—For small Circular and Mill Saws, $2.50 each.

Fig. 1655



For Band Saws, $2 50 each

Fig. 1656 MIXTER.

No. 0—Swage, for small thin Saws; weight, 5 oz Price, net, $2 50

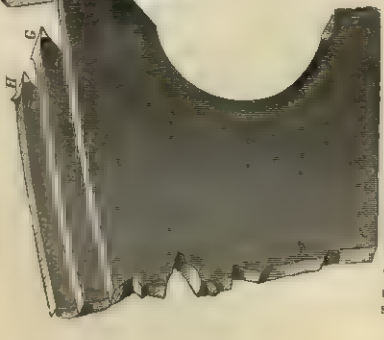
No. 1—Swage, for Saws of thinner gauges; weight, 10 oz. Price, net, $3.00

No. 2—Swage, medium size, for saws of from 8 to 12 gauge; weight, 1 lb. Price, net, $3.50

THE CONQUEROR SWAGE, JUMPER OR UPSET.

No. 1—For large Circular Saws. . . . . $3.00 each.

Fig. 1657



IMPROVED SIDE FILE.

Price. $1.50

The Side File is used for the purpose of regulating Saw Teeth after they have been set. It is impossible to set a saw so that some of the teeth will not extend or be bent over a little more than others, and thus make rough lumber. By the use of this instrument all the teeth are made even, and a saw thus regulated will run twice as long without sharpening.

The file must be so adjusted by means of the set-screws as to conform to any width of set desired. The jam-nuts are for the purpose of securing the set-screws in the desired position.

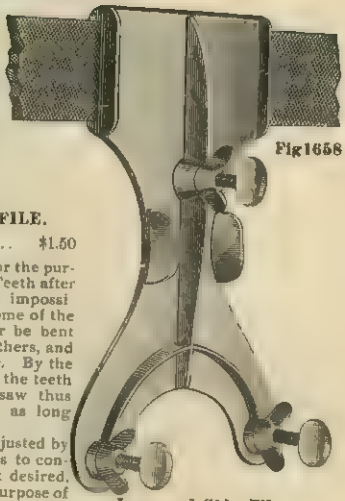


Fig1658

Improved Side File.

CIRCULAR SAW SET.

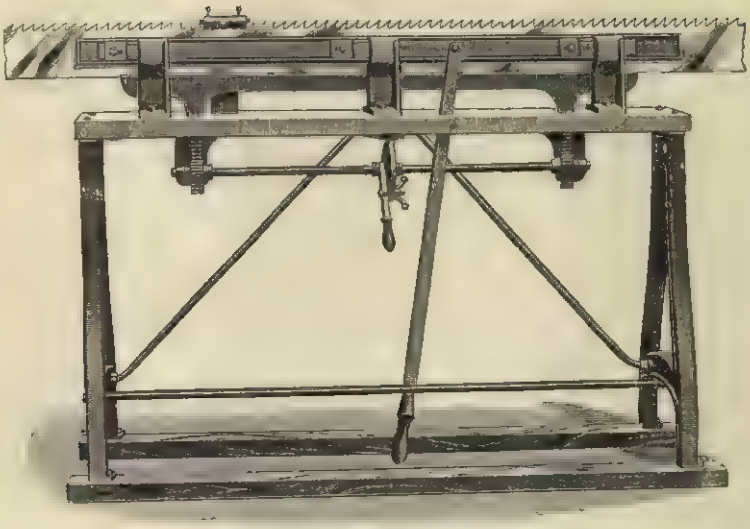
Length, 18 Inches. . . . . each, $1.50

CROSS-CUT SAW SET.

No. 1, Large Size with Solid Steel Handle. . . . . each, $1.00
" 2, Small " " " " " " . . . . " .75

SAW-FILING EQUIPMENT.

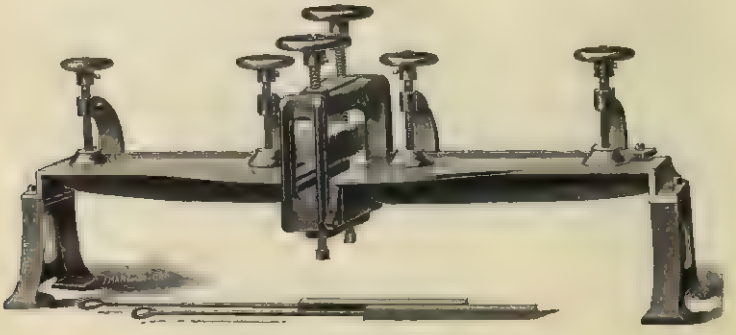
Fig. 1659



FILING CLAMP OR VISE.

The cut represents our Improved Band Saw Filing Clamp. It is a strong and well made machine, and is very simple in operation. A lever is attached to a bar with wedges upon it, and when, by a movement of this lever, the wedges are forced into the upright stands, the saw is securely clamped. The clamps are moved up and down to suit the different widths of saws by the racks and pinions under the table which are operated by the short lever. A neat jointer is also attached to the machine.

Fig. 1660



BRAZING TABLE.

In order to make a perfect braze a first-class, substantial Brazing Table is necessary. The one illustrated is extra heavy and is supplied with every modern convenience, and invariably gives entire satisfaction.

QUEEN CITY SUPPLY CO CINCINNATI, O.

Fig. 1661.

SWING CUT-OFF SAW.

The accompanying cut represents a light and strong Swing Cut-off Saw.

The Frame swings on the Boxes, thereby relieving the shaft of all strain.

It is made of two-inch Gas-pipe, and braced in such a manner that it is impossible for it to spring, as is the case of a great many machines.

The Mandrel is of steel, and the boxes, which are extra long, are lined with genuine Babbitt Metal.

The saw is protected by a shield; the machine is complete, and can be set up and put in operation in a short time.

They are made any length desired. The tight and loose Pulleys are 10x4½, and should run 650 revolutions per minute.

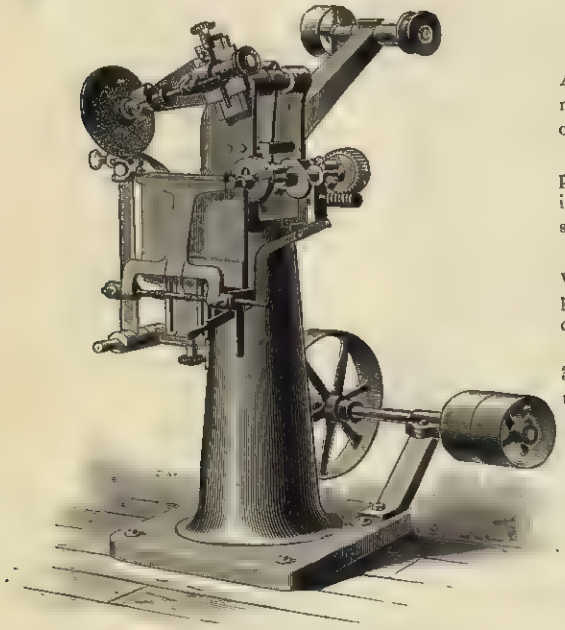
Price, $50.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCKETA PIPE & TRAPS

SAW FILING EQUIPMENT.

Fig. 1662



AUTOMATIC BAND SAW SHARPENER.

Automatic Band Saw Sharpener.

We present herewith a cut of our improved Automatic Saw Sharpener for band saws. This machine posesses many decided advantages over other machines on the market.

It is the most simple machine made for the purpose, having very few parts. All of the wearing parts of steel, and the material and workmanship first-class in every way.

It is adjustable to any shape of tooth, the feed works are positive and accurate, and suitable means provided for taking up any lost motion that may be caused by wear.

Loose and tight pulleys 8 inches in diameter, 3½ inch face, and should run 300 revolutions per minute.

Price on application.

Improved Automatic Power Swage.

FOR BAND SAWS.

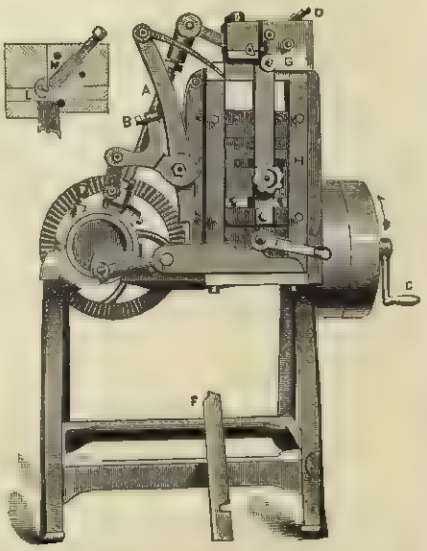
This machine has been constructed with a view to meet the wants of mill men.

The shape of the dies are such that the swaging is done on the face of the tooth. (See small cut of the dies L and M.

The dies are so arranged that they can be kept in order very readily, leaving the tooth straight and true. The machine being automatic, it saves labor and joints the face of the saw parallel with the back. It is adjustable to any width saw from 3 to 12 inches, and the machine may be used in connection with the saw sharpener, obviating the necessity of changing the saw from one machine to the other.

Price on application.

Fig. 1663

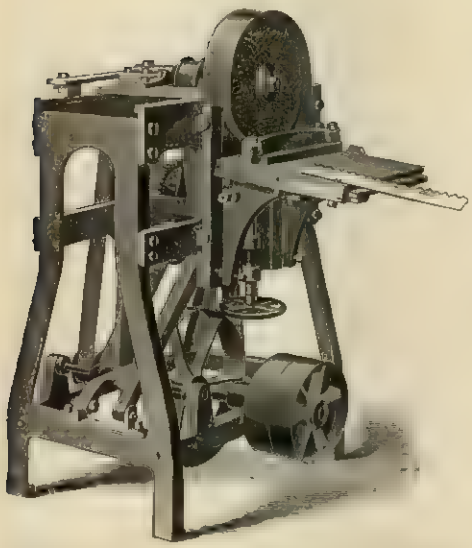


IMPROVED AUTOMATIC POWER SWAGE.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SAW FILING EQUIPMENT.

Fig. 1664



AUTOMATIC EMERY WHEEL BAND SAW SCARFING MACHINE.

Automatic Emery Wheel Band Saw Scarfing Machine.

This machine is the strongest, most compact, and most accurate in its work of any scarfer or lap grinder made. It dresses with the utmost accuracy, leaving the two ends in such shape that when put together an almost invisible joint is formed, and no filing is required.

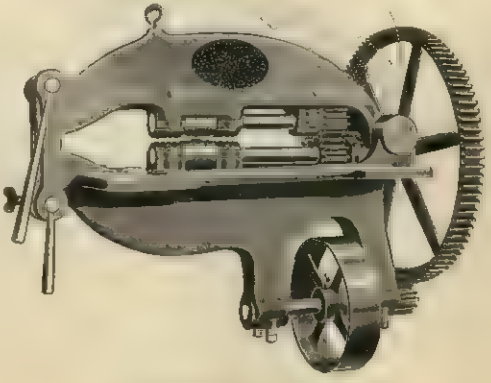
The movement of the emery wheel is automatic both lengthwise and sidewise, thus keeping both the face and roundness of the wheel perfectly true at all times, without dressing. One emery wheel with each machine.

Fig. 1665.

The Giant Saw Stretcher.

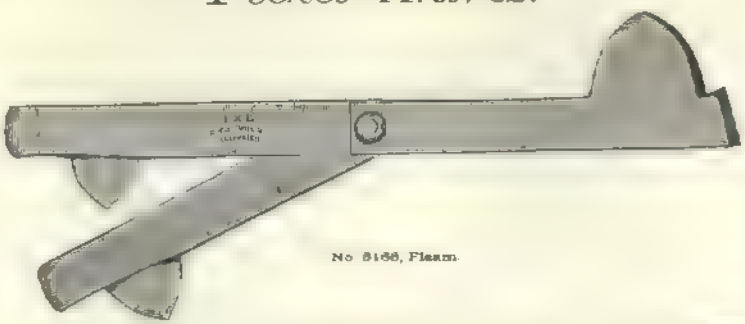
We present herewith a cut of the Giant Saw Stretcher. Unless the tension of a band saw is properly adjusted it will not keep to a true line. As the front edge is continually stretching by use, it is therefore necessary to open the center and back frequently. This is usually done with a hammer, and is more or less an injury to the steel. By using the stretcher the hammering process may be dispensed with to a great extent, and in addition considerable time may be saved. No special training or knowledge is necessary to enable the operator to use the machine.

The machine is necessarily very heavy and substantial, and the workmanship is first-class.



THE GIANT SAW STRETCHER.

Pocket Knives.

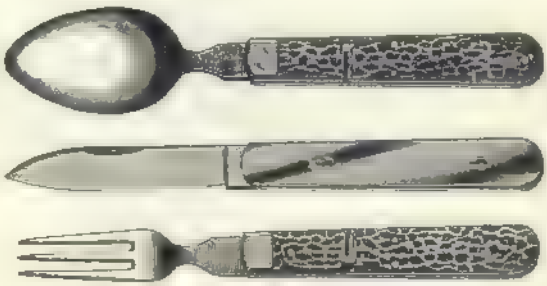


No 5166, Flasm.

NO.	DESCRIPTION.	PER DOZEN.
5166	Two Blades, Brass Handle, 3 inches,	$4 65
5167	Three Blades, Brass Handle, 3 inches,	5 25

NO.	DESCRIPTION	PER DOZEN
145	One Blade, Ebony Handle, Iron Lined, H., S., B. & Co.'s, 5½ inches,	$10 50

Camping Knives.



Closed, 1¼x4½ inches.

NO.	DESCRIPTION.	PER DOZEN.
0147	Camping Knife, Fork and Spoon, Open, 8 inches long,	$26 25

Pocket Knives.

Ulster Knife Co.'s, Warranted.

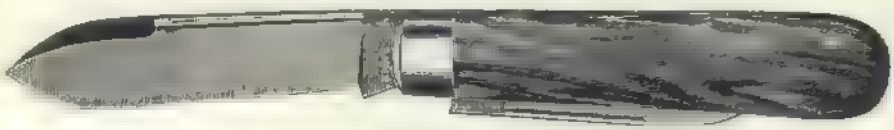
No. 1100.

NO.	DESCRIPTION.	PER DOZEN.
1100	One Blade, Cocoa Handle, Iron Lined 2½ inches,	$1 75
2103	Two " " " " " 2½ "	2 80
1101	One " " " " " 3 "	2 05
2104	Two " " " " " 3 "	3 40

No. 1102

NO.	DESCRIPTION.	PER DOZEN
1102	One Blade, Cocoa Handle, Iron Lined, 3½ inches,	$3 65
2114	Two " " " " " 3½ "	4 15

NO.	DESCRIPTION	PER DOZEN
2110	Two Blades, Cocoa Handle, Iron Lined, 3½ inches,	$5 65



No. 2111

NO	DESCRIPTION	PER DOZEN
2111	Two Blades, Cocoa Handle, Iron Lined, 3¼ inches,	$5 65
2112	" " Ebony " " " 3¼ "	5 80

HALF DOZEN IN A BOX

Pocket Knives.

Ulster Knife Co.'s Warranted.

No. 2162. Carpenter's Knife

No.	DESCRIPTION	PER DOZEN
2162	Two Blades, Ebony Handle, Brass Lined, 3½ inches,	$8 25
2178	" " Stag " " " one Small Blade, 3¼ inches,	8 25

NO.	DESCRIPTION.	PER DOZEN.
2161	Two Blades, Ebony Handle, Brass Lined, 3½ inches,	$8 05

No. 2119.

NO.	DESCRIPTION.	PER DOZEN.
2115	Two Blades, Ebony Handle, Brass Lined, 3⅝ inches,	$7 15
2119	" " " " " " 3⅝ "	7 90
2120	" " White Bone " " " 3⅝ "	9 00
2160	" " Stag " " " 3⅝ "	9 40

NO.	DESCRIPTION.	PER DOZEN
2177	Two Blades, Ebony Handle, Brass Lined, 3½ inches,	$8 05

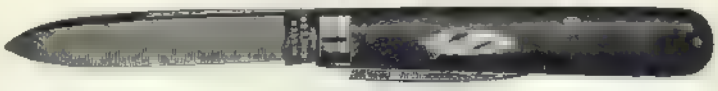
No. 2170.

NO.	DESCRIPTION.	PER DOZEN.
2169	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$9 75
2170	" " Buffalo " " " " " 3½ "	10 50

HALF DOZEN IN A BOX.

Pocket Knives.

Ulster Knife Co.'s, Warranted.



No. 2130

NO.	DESCRIPTION.	PER DOZEN
2130	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3 inches,	$7 90
2107	" " Ebony " " " " " 3¾ "	6 00

No. 2151.

NO.	DESCRIPTION.	PER DOZEN.
2131	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 8 65
2175	" " Stag " " " " " 3½ "	8 65
2188	" " Pearl " " " " " 3½ "	13 50

NO	DESCRIPTION.	PER DOZEN.
1139	One Blade, Cocoa Handle, Iron Lined, 3¼ inches,	$3 25
2136	Two Blades, Stag " Brass " 3½ "	9 75

NO.	DESCRIPTION	PER DOZEN
2126	Two Blades, White Bone Handle, Brass Lined, 3½ inches,	$8 75

No. 2122.

NO	DESCRIPTION.	PER DOZEN.
2122	Two Blades, Cocoa Handle, Brass Lined, 3½ inches,	$8 65
2121	" " Ebony " " " Spear Point Blade, 2¾ inches,	9 00

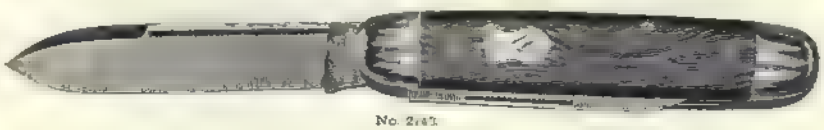
HALF DOZEN IN A BOX

Pocket Knives.

Ulster Knife Co.'s, Warranted.

No. 21[illegible]

NO.	DESCRIPTION.	PER DOZEN
2127	Two Blades, Ebony Handle, Brass Lined, [illegible] inches,	$7 50
2133	" " Cocos " " " [illegible] "	9 00

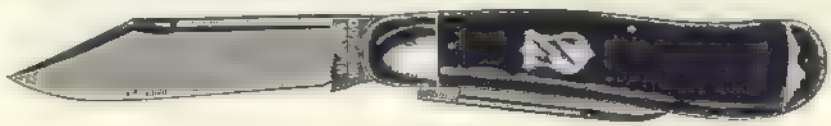


No. 2143

NO.	DESCRIPTION	PER DOZEN.
2143	Two Blades, Cocos Handle, Brass Lined, 3½ inches,	$6 25
2144	" " Ebony " " " " "	[illegible]
2145	" " White Bone " " " 3½ "	9 00

NO.	DESCRIPTION.	PER DOZEN.
2137	Two Blades, Cocos Handle, Brass Lined 3[illegible] inches.	$9 15

NO.	DESCRIPTION.	PER DOZEN.
2153	Two Blades, Stag Handle, Brass Lined [illegible] inches.	$9 15



No. 2[illegible]

NO.	DESCRIPTION	PER DOZEN
2159	Two Blades, Cocos Handle, Brass Lined, [illegible] inches	$9 15
2154	" " Ebony " " " 3½ "	8 25

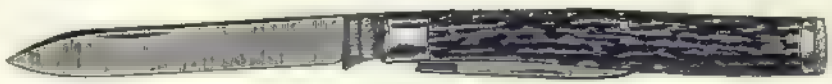
HALF DOZEN IN A BOX

Pocket Knives.

Ulster Knife Co's, Warranted.

No. 2183.

NO.	DESCRIPTION.	PER DOZEN.
2183	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3¾ inches.	$7 90
2184	" " Ebony " " " " 3½ "	8 05



No. 2193.

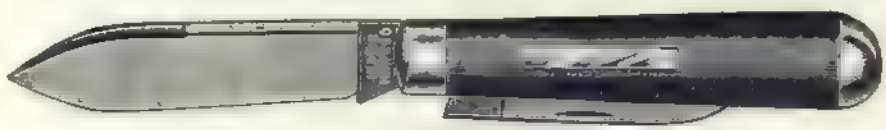
NO.	DESCRIPTION.	PER DOZEN.
2192	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$11 25
2193	" " Stag " " " " " 3½ "	11 25
2194	" " Pearl " " " " " 3½ "	18 00

No. 2165.

NO.	DESCRIPTION	PER DOZEN.
2167	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$12 40
2168	" " Pearl " " " " " 3½ "	21 00

No. 2178.

NO	DESCRIPTION	PER DOZEN.
2178	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 00
2179	" " Buffalo " " " " " 3½ "	9 15
2177	" " Stag " " " " " 3½ "	9 00
2187	" " Cocoa " " " " " 3 "	8 65
2188	" " Buffalo " " " " " 3 "	9 00
2189	" " Stag " " " " " 3 "	9 00
2191	" " White Bone " " " " " 3 "	9 00
2190	" " Pearl " " " " " 3 "	16 50



No. 2181.

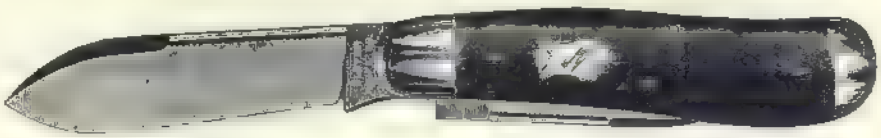
NO	DESCRIPTION.	PER DOZEN
2180	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3 inches,	$ 7 [illegible]
2181	" " Buffalo " " " " " 3½ "	10 90
2171	" " Stag " " " " " 3½ "	11 25
2172	" " " " " " " 3½ "	9 40
2176	" " " " Iron " " 3½ "	8 25

HALF DOZEN IN A BOX.

Pocket Knives.

Ulster Knife Co 's, Warranted.

NO.	DESCRIPTION.	PER DOZEN.
2162	Two Blades, Ebony Handle, Brass Lined, 3½ inches.	$9 40



NO.	DESCRIPTION	PER DOZEN.
2151	Two Blades, Ebony Handle, Brass Lined, 3½ inches.	$9 75

NO.	DESCRIPTION	PER DOZEN
3110	Three Blades, Cocoa Handle, Brass Lined, 3½ inches,	$11 25

NO.	DESCRIPTION.	PER DOZEN.
3120	Three Blades, Ebony Handle, Brass Lined, 3½ inches,	$12 00

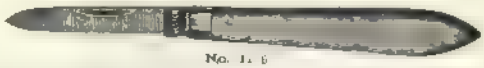
No. 3119.

NO	DESCRIPTION	PER DOZEN.
3122	Three Blades, Cocoa Handle, Brass Lined, 3½ inches,	$11 65
3118	" " Ebony " " " 3⅝ "	11 80
3119	" " Stag " " " 3⅝ "	12 75

HALF DOZEN IN A BOX.

Pocket Knives.

Ulster Knife Co.'s, Warranted.



No. 1[illegible]5

NO.	DESCRIPTION,	PER DOZEN.
1116	One Blade, Ivory Handle, Brass Lined, 2½ inches,	$3 00
1117	" " Shell " " " 2¼ "	3 60
1119	" " Pearl " " " 2¼ "	4 15

NO.	DESCRIPTION	PER DOZEN.
2155	One Blade, with Glove Buttoner, Pearl Handle, Brass Lined, [illegible] inches	$6 40

NO.	DESCRIPTION.	PER DOZEN
3132	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3 inches	$16 50

No. 3104

NO.	DESCRIPTION.	PER DOZEN
3104	Three Blades, Shell Handle, Brass Lined, Crocus Polished, 3 inches,	$11 25
3105	" " Pearl " " " " " 3 "	13 50

No. 3130

NO.	DESCRIPTION.	PER DOZEN.
3130	Three Blades, Shell Handle, Brass Lined, Crocus Polished, 2½ inches,	$13 50
3131	" " Pearl " " " " " 2½ "	14 25

No. 3[illegible]

NO.	DESCRIPTION.	PER DOZEN
3106	Three Blades, Ivory Handle, Brass Lined, Crocus Polished, 3[illegible] inches,	$13 15
3107	" " Shell " " " " " 3½ "	16 75
3108	" " Pearl " " " " " 3½ "	19 50
3109	" " Stag " " " " " 3½ "	18 50

NO	DESCRIPTION.	PER DOZEN
3127	Three Blades, Shell Handle, Brass Lined, Crocus Polished, 3½ inches,	$18 75

HALF DOZEN IN A BOX

Hand and Rip Saws.

NO.	DESCRIPTION	PER DOZEN.	
		HAND 26 INCH.	RIP 26 INCH.
7	Disston & Sons' Cast Steel Best Handle Polished Tapered 4 Improved Screws, Grained Blade and Etched,	$20 00	$20 00

26 INCH 9, 10, 11 AND 12 POINTS. 28 INCH, 6, 6½, 5, 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.

NO.	DESCRIPTION.	PER DOZEN.	
		HAND 26 INCH.	RIP 26 INCH.
8	Disston & Sons' Spring Steel, Apple Handle, Polished Edge, 4 Improved Screws, Grained Blade and Etched,	$21 00	$24 00

AND 11 POINTS. INCH, AND POINTS. ONE-THIRD DOZEN IN A BOX.

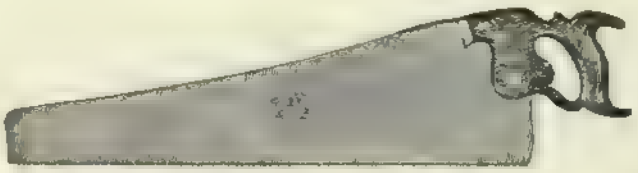
NO.	DESCRIPTION	PER DOZEN	
		HAND 26 INCH.	RIP 26 IN.
1	Disston & Sons', Spring Steel, Carved Apple Handle, Polished, 4 Improved Screws, Grained Blade and Etched,	$22 00	$25 00

26 INCH 9, 10, 11 AND 12 POINTS. 28 INCH, 6½ 6 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.

NO.	DESCRIPTION	PER DOZEN	
		HAND 26 INCH.	RIP 26 INCH
12	Disston & Sons' Extra Refined London Spring Steel Selected and Highly Polished Blade, Handle Carved and Polished 4 Raised Brass Screws,	$30 00	$34 00

26 INCH 7, 8, 9, 10, 11 AND 12 POINTS. 28 INCH, 6, 6½, 6 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.

Hand and Rip Saws.

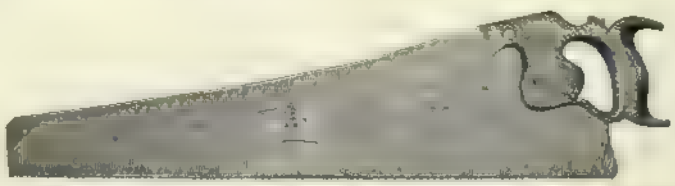


NO.	DESCRIPTION.	PER DOZEN.	
		HAND 26 INCH.	RIP 26 INCH.
76	Disston & Sons' Centennial, Cast Steel Skew Back, Polished Apple Handle, 4 Rivets, - - - - - -	$20 50	25 50

26 INCH, 5, 7, 8, 9, 10 AND 12 POINTS. 26 INCH, 4½, 5, 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.

NO.	DESCRIPTION.	PER DOZEN.	
		HAND AND RIP 26 INCH.	RIP 26 INCH.
D 8	Disston & Sons' Cast Steel Skew Back, Apple Handle, Polished Edge, 5 Improved Screws, Grained Blade and Etched, -	$22 00	25 00

25 INCH HAND, 6, 7, 8, 9, 10, 11 AND 12 POINTS. 26 INCH RIP 5½ AND 6 POINTS. 26 INCH, 4, 4½, 5, 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.



NO.	DESCRIPTION.	PER DOZEN.	
		HAND 26 INCH.	RIP 26 INCH.
130	Disston & Sons' Acme, Extra London Spring Steel, Skew Back, Carved and Polished Apple Handle, 5 Rivets, runs entirely without Set on Dry Seasoned Lumber, - - -	$33 00	36 00

26 INCH, 8, 9, 10, 11 AND 12 POINTS. 26 INCH, 4½, 5, 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.

NO.	DESCRIPTION.	PER DOZEN.	
		HAND 26 INCH.	RIP 26 INCH.
3	Brown's, Grained Blade, Beech Handle, Polished Edge, 4 Rivets, Full Width,	$18 00	16 00

26 INCH, 5, 6, 7, 8 AND 9 POINTS. 26 INCH, 4½, 5 AND 5½ POINTS. ONE-THIRD DOZEN IN A BOX.

Hand and Rip Saws.

NO	DESCRIPTION	PER DOZEN	
		HAND 26 INCH.	RIP 26 INCH.
20	Always Ahead, Extra Cast Steel, Ground Blade, Skew Back, Beech Handle, Polished and Etched, 4 Plated Rivets, - -	$21 00	24 50

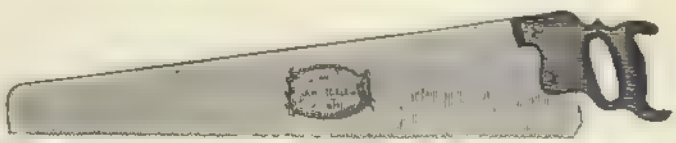
26 INCH, 6, 7, 8, 9, 10, 11 AND 12 POINTS. 28 INCH, 4½, 5, 5½ AND 6 POINTS. ONE-THIRD DOZEN IN A BOX.

NO	DESCRIPTION	PER DOZEN
		HAND 26 INCH.
70	Electric Cast Steel, Patent Ground, Beech Handle, Polished and Etched 4 Brass Rivets, -	$ 90

5, 6, 7, 8, 9 AND 10 POINTS. ONE-THIRD DOZEN IN A BOX.

NO	DESCRIPTION	PER DOZEN.
		HAND 26 INCH.
5	Grangers Cast Steel, Panel Black Walnut Handle, 3 Rivets, Raised Steel Plate	$1 1 00

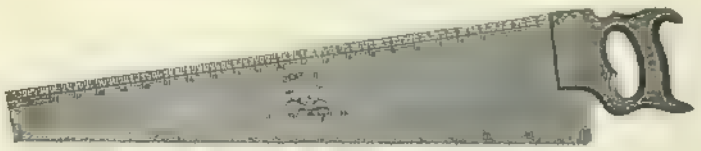
26 INCH, 5, 6, 7, 8 AND 9 POINTS. HALF DOZEN IN A BOX.



NO	DESCRIPTION.	PER DOZEN.
		HAND 26 INCH.
50	Sam Sickles Cast Steel Beech Handle, Polished Edge, 3 Rivets,	$6 50

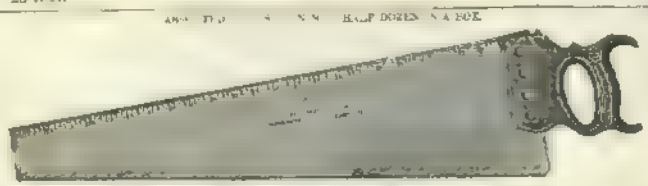
ASSORTED, 5 TO 8 POINTS. HALF DOZEN IN A BOX.

Combination Hand Saws.



NO.	DESCRIPTION.	PER DOZEN.
60	Desto[illegible] Saw, with 24 inch Square and Rule, Straight Edge, 3 Rivets 26 inch	$8 00

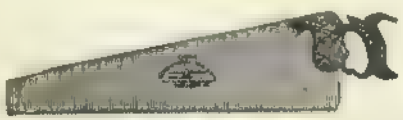
ASSORTED, 6 TO 8 AND 7 TO 9 POINTS. HALF DOZEN IN A BOX.



NO.	DESCRIPTION.	PER DOZEN.
29	Patent Combination Saw, with 24 inch Square and Rule, Straight Edge and Scratch Awl, Plain Tools, 26 inch,	$11 00

ASSORTED, 6 TO 8 AND 7 TO 9 POINTS. ONE-THIRD DOZEN IN A BOX.

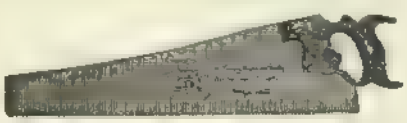
Panel Saws.



No. 7 Disston & Sons' Warranted, Beech Handle, Polished Edge Etched [illegible]

Inches,	16	18	20	22	24
Per Dozen,	$13 00	14 00	16 00	18 00	19 00

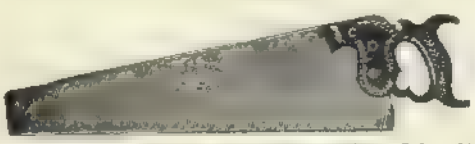
7, 8, 9, 10, 11 AND 12 POINTS. ONE-THIRD DOZEN IN A BOX.



No. D, 8. Disston & Sons' Cast Steel, Warranted, Skew Back, Polished Apple Handle, 4 Improved Screws, Grained Blade and Etched

Inches,	18	20	22	24
Per Dozen,	$16 00	17 50	19 50	21 00

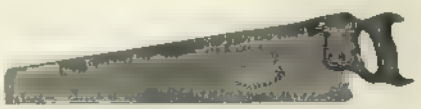
8, 9, 10, 11 AND 12 POINTS. ONE-THIRD DOZEN IN A BOX.



No. 12. Disston & Sons' Extra London Spring Steel Blade, Selected and Highly Polished Apple Handle Carved, 4 Improved Screws

Inches,	18	20	22
Per Dozen,	$22 00	24 00	26 00

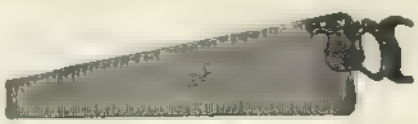
8, 9, 10, 11 AND 12 POINTS. ONE-THIRD DOZEN IN A BOX.



No. 30. Sam Sickles, Cast Steel, Beech Handle, Polished Edge.

Inches,	14	16	18	20	22
Per Dozen,	$5 25	5 50	5 75	6 00	6 25

8, 9, 10 AND 11 POINTS. HALF DOZEN IN A BOX.



No. 3. Brown's, Beech Handle, Polished Edge 3 Rivets Grained Blade Etched.

Inches,	16	18	20	22
Per Dozen,	$8 00	9 00	10 00	11 00

8, 9, 10, 11 AND 12 POINTS. ONE-THIRD DOZEN IN A BOX.

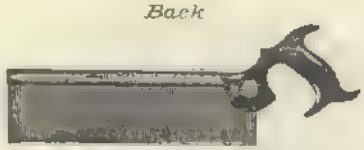
No. 98. Extra Cast Steel, Patent Ground, Skew Back, Beech Handle, Polished and Carved, Plated Rivets

Inches,	16	18	20	22
Per Dozen,	$14 00	15 50	17 00	19 00

7, 8, 9, 10, 11 AND 12 POINTS. ONE-THIRD DOZEN IN A BOX.

Saws.

Back



No 1. Jacksan's, Beech Handle, Polished Edge, Blue Back,

Inches,	10	12	14	16
Per Dozen,	$10 00	12 00	14 00	1 00

ONE-THIRD DOZEN IN A BOX.

No. 4. Disston & Sons', Apple Handle, Polished Edge, Blue Back.

Inches,	8	10	12	14	16
Per Dozen,	$13 00	14 00	16 00	18 00	20 00

ONE-THIRD DOZEN IN A BOX.

Compass.

No. 30. Sam Sickles' Cast Steel, Beech Handle,

Inches,	10	12	14
Per Dozen,	$4 00	4 25	4 50

HALF DOZEN IN A BOX.

Disston & Sons' Cast Steel, Apple Handle,

Inches,	10	12	14	16
Per Dozen,	$4 25	4 50	4 75	5 00

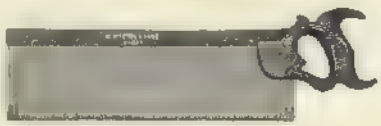
HALF DOZEN IN A BOX.

Nests of Saws.

DESCRIPTION	PER DOZEN NESTS
Combines one each Key Hole, Compass, and Table or Pruning Saw,	$12 00
	PER DOZEN
Key Hole Saw Blades for above,	$4 50
Compass Saw Blades for above,	3 00
Pruning Saw Blades for above,	3 60
Handles for above,	2 50

QUARTER DOZEN NESTS IN A BOX.

Back.

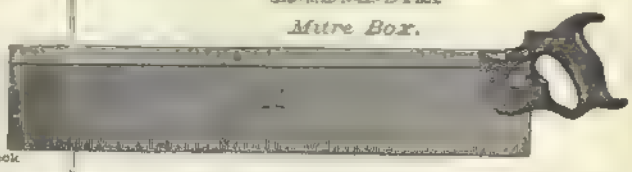


No. 7 Disston & Sons same as No. 4, with Polished Steel Back

Inches,	10	12	14	16
Per Dozen,	$15 00	17 00	19 00	21 00

ONE-THIRD DOZEN IN A BOX.

Mitre Box.



No 4 Disston & Sons Apple Handle, Polished Edge, Blue Back, Steel Under Back

Inches,	20	24
Per Dozen,	$24 00	28 00

Key Hole

DESCRIPTION	PER DOZEN
Disston's Key Hole Saw, with Iron Pad,	$2 50
Extra Blades for above,	1 75

ONE DOZEN IN A BOX.

Saw Pads.

DESCRIPTION.	PER DOZEN
German Wood Saw Pads,	$5 00

ONE DOZEN IN A PACKAGE

Key Hole Saw Blades.

DESCRIPTION	PER DOZEN
Disston & Sons' Cast Steel, Ground, Set and Sharpened, Assorted Sizes	$2 00

ONE DOZEN IN A BOX

Hack Saws.

Disston's.

Reversible Frame

Inches	8	9	10
Per Dozen,	$13 25	13 75	14 25

ONE-THIRD DOZEN IN A BOX.

Keystone.

Inches	8	9	10	12
Per Dozen,	$6 50	7 00	7 50	8 00

ONE-THIRD DOZEN IN A BOX.

Griffin's.

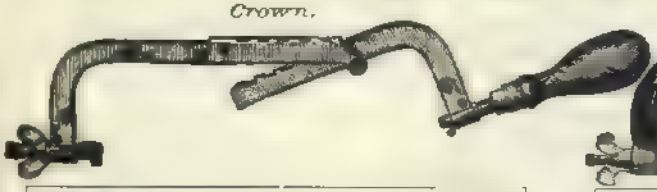
No. 80. Japanned Frame.

Inches	8	9	10
Per Dozen,	$16 00	17 00	18 00

ONE SAW IN A BOX, COMPLETE WITH ONE DOZEN BLADES.

Hack Saw Frames.

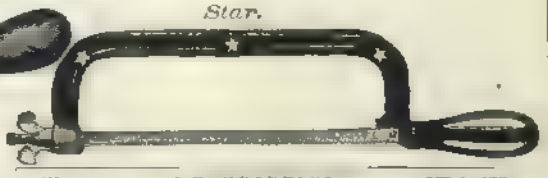
Crown.



NO.	DESCRIPTION	PER DOZEN.
1	Crown Extension, Nickel Plated Steel Frame, Enameled Handle, Extends from 8 to 10 inches.	$12 00

ONE IN A BOX.

Star.

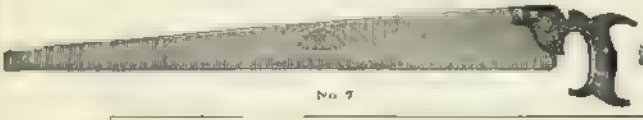


NO.	DESCRIPTION	PER DOZEN
4	Star, Japanned Frame for 9 inch Blades,	$4 80

ONE IN A BOX.

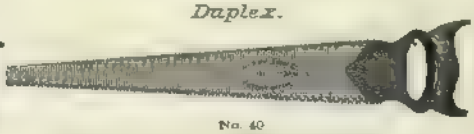
Pruning Saws.

Brown's and Disston's



No. 7

Duplex.



No. 40

NO.	DESCRIPTION.	PER DOZEN.
3	Brown's, Beech Handle Polished Edge 3 Rivets, Grained Blade and Etched, 20 inch,	$ 8 25
7	Disston & Sons', Cast Steel, Apple Handle, Polished Edge, 3 Rivets, 20 inch,	11 00
40	Duplex Pruning Saws, 18 inch.	7 75

ONE-THIRD DOZEN IN A BOX.

Crescent.

DESCRIPTION	PER DOZEN.
Henry Disston & Sons Crescent Cast Steel Pruning Saw, 12 inch Blade,	$6 50

HALF DOZEN IN A BOX.

Pruning Saw and Knife.

DESCRIPTION.	PER DOZEN.
Disston & Sons Improved Pole Pruner Screw Socket, Japanned Frame,	$11 00

QUARTER DOZEN IN A BOX.

Butchers' Saws.

"O. V. B." Flat Back, ⅜ Inch Clock Spring Bl'ued Blade

Inches,	16	18	20	22	24	26
Per Dozen,	$15 00	16 00	17 00	18 00	19 00	20 00

ONE-THIRD DOZEN IN A BOX.

No. 2, Disston & Sons' Flat Back.

Inches,	16	18	20	22	24
Per Dozen,	$12 50	13 25	14 00	14 75	15 50

ONE-THIRD DOZEN IN A BOX.

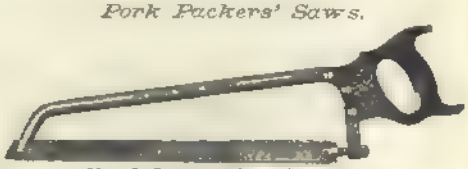
No. 7, Disston & Sons' Flat Steel Back.

Inches,	18	20	22	24	26	28
Per Doz.	$16 00	17 00	18 00	19 00	20 00	21 00

ONE-THIRD DOZEN IN A BOX.

No. 5, Disston & Sons' Oval Back.

Pork Packers' Saws.



No. 10, Disston & Sons' Oval Back.

No. 1, Butchers', inches	20	22	24	26	28
Per Dozen	$18 00	19 00	20 00	21 00	22 00

No. 10, 18 inch, Pork Packers' Saws, - - - - - Per Dozen, $17 00

ONE-THIRD DOZEN IN A BOX.

Kitchen Saws.

No. 0, Oval Back.

Inches,	12	14
Per Dozen,	$5 50	6 00

HALF DOZEN IN A BOX.

Saw Knives.

DESCRIPTION	PER DOZEN
Cast Steel Blade	$5 25

ONE DOZEN IN A BOX.

Dehorning Saws.

DESCRIPTION.	PER DOZEN.
Haaff's, Malleable Iron Frame, Japanned, 10 inch Blade - - - - - - - -	$20 00
Extra Blades, - - - - - - -	3 75

DESCRIPTION	PER DOZEN.
Disston & Sons' Japanned Frame, Wood Handle, 10 inch Blade	$10 00
Extra Blades,	1 35

HALF DOZEN IN A BOX.

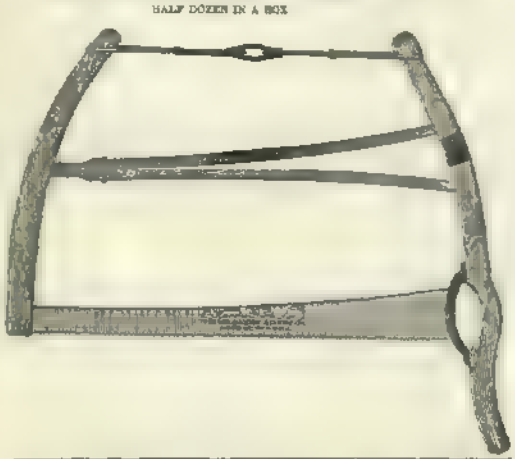
Wood Saws.

NO.	DESCRIPTION.	PER DOZ.
2	Common Frame, Jackson Blade, Chipper Rod, -	$5 50
15	Common Frame, No. 6 Disston Blade Chipper Rod,	9 00

HALF DOZEN IN A BOX.

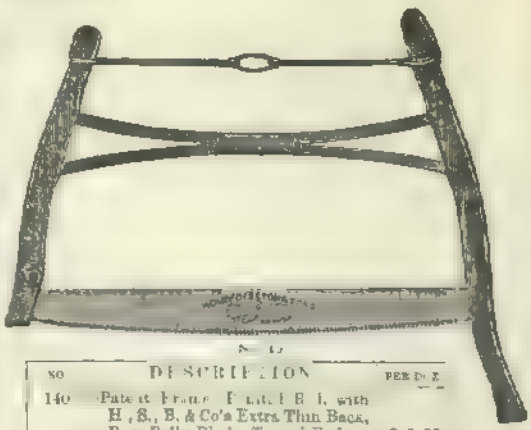
NO.	DESCRIPTION.	PER DOZ.
480	Common Frame Painted Red, Chipper Rod, 2 inch Blade, Set and Fued, -	$6 75

HALF DOZEN IN A BOX



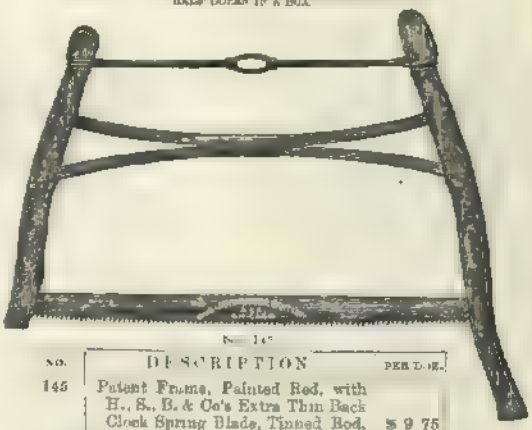
DESCRIPTION.	PER DOZEN
Handy, Patent Frame, Painted Red, W. M. & C's Patent Blade, Chipper Rod, -	$12 00

HALF DOZEN IN A BOX



NO.	DESCRIPTION	PER DOZ.
140	Patent Frame Painted Red, with H., S., B. & Co's Extra Thin Back, Bow Belly Blade, Tinned Rod,	$ 8 00
40	Same as No. 140, with Disston's Special No. 16 Blade, - - -	10 50

HALF DOZEN IN A BOX



NO.	DESCRIPTION	PER DOZ.
145	Patent Frame, Painted Red, with H., S., B. & Co's Extra Thin Back Clock Spring Blade, Tinned Rod,	$ 9 75
45	Same as No. 145, with Disston's Clock Spring Blade, - - - -	$11 00

HALF DOZEN IN A BOX

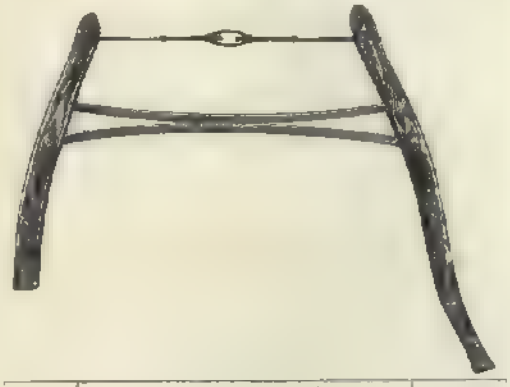
DESCRIPTION.	PER DOZ.
Happy Medium, Patent Frame, Painted Red, W. M. & C's Clock Spring Blued Blade, Chipper Rod, - - - - -	$11 00

HALF OR ONE DOZEN IN A BOX

Wood Saw Frames.

NO.	DESCRIPTION	PER DOZEN.
1	Common Frame, Plain,	$
2	Common Frame, Painted,	
	Short End Pieces, Plain,	
	Short End Pieces, Painted,	
	Centre Pieces for No. 40 Wood Saws,	
	Centre Pieces for No. 45 Wood Saws,	

SIX DOZEN IN CRATE.



NO.	DESCRIPTION.	PER DOZEN.
50	Patent Braced Frame, Painted Red with Saw Rod,	$ 00

Saw Rods

DESCRIPTION	PER DOZEN
Copper	$1

ONE DOZEN IN A PACKAGE

DESCRIPTION	PER DOZEN
Favorite, Patent Loop,	$1

HALF DOZEN IN A PACKAGE

DESCRIPTION.	PER DOZEN
Triple Black 23 Inch,	$1 80

HALF DOZEN IN A PACKAGE.

Boys' Wood Saws.

DESCRIPTION.	PER DOZEN.
Cut-I-Cure U. Jr., Wood Saw and Buck,	$ 8 25
Boys' Favorite, Wood Saw and Buck, Large,	12 00

ONE IN A BOX

Saw Bucks.

DESCRIPTION	PER DOZEN.
Folding Saw Bucks,	$9 75

HALF DOZEN IN A CRATE

Saw Blades.

Butchers'.

⅝ and 1⅛ inch wide

Inches.	18	20	22	24	26	28
Per Doz.	$5 25	5 50	6 75	8 00	8 25	8 50

1¼ INCH IS INVARIABLY SENT WHERE WIDTH IS NOT SPECIFIED.
ONE DOZEN IN A BOX.

Clock Spring Butchers'.

⅝ inch Wide.

Inches.	22	24	26	28
Per Dozen.	$6 75	7 00	7 25	7 50

ONE DOZEN IN A PACKAGE.

Star Butchers'.

⅝ Inch Wide.

Inches.	14	16	18	20	22	24	26
Per Doz.	$1 08	1 08	1 20	1 20	1 32	1 32	1 44

ONE DOZEN IN A PACKAGE.

Hack.

Disc or S

Inches.	8	10	12
Per Dozen.	$2 80	3 25	3 75

ONE DOZEN IN A BOX.

Keystone.

Inches.	8	10	12
Per Dozen.	$1 25	1 35	1 50

ONE DOZEN IN A PACKAGE.

Star

Inches.	8	9	10	
Per Dozen	$0 60	70	85	1 00

ONE DOZEN IN A PACKAGE.

Or Pin

Inches.	8	9	10
Per Gross	$10 50	11 25	12 00

ONE DOZEN IN A BOX.

Bracket.

DESCRIPTION	PER GROSS
5 inch sizes, 2/0 (finest) to 6 (coarsest)	$1 [illegible]

SIX DOZENS IN A PACKAGE.

Turning and Felloe Webs.

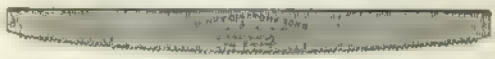
Inches	10	12	14	16	18	20
Width,	1/8 to 1/4	1/8 to 1/8	1/8 to 1/8	1/4 to 3/8	1/4 to 3/8	1/4 to 3/8
Per Doz.,	$1 35	1 45	1 60	1 80	2 00	2 25

Inches.	22	24	26	28	30
Width,	1/4 to 3/8	1/4 to 3/8	1/4 to 3/8	1/4 to 3/8	1/4 to 1
Per Doz.,	$2 50	2 80	3 10	3 45	3 80

Wood

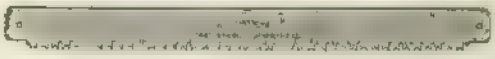
NO.	DESCRIPTION	PER DOZEN
4	Jackson's Cast Steel, Set and Sharpened, 30 inch,	$3 50
6	Disston & Sons' Cast Steel, Patent Ground and Tempered, Set and Sharpened, 30 inch,	[illegible]
8	Same as above, 36 inch long, and 3½ points to the inch,	7 50
9	Disston & Sons Cast Steel, Patent Ground and Tempered, Set and Sharpened, 30 inch,	[illegible]
11	Disston & Sons' Extra Cast Steel (for Wood Sawyers), Set and Sharpened, 30 inch,	9 50
20	W. M. & Co's Handy, Patent Blade, Cast Steel Set and Sharpened, 30 inch,	10 50

ONE DOZEN IN A PACKAGE.



16	Disston & Sons' Improved Round Breasted, Cast Steel, Patent Ground and Tempered, Set and Sharpened, 30 inch,	$6 00
0141	H., S., B. & Co's Extra Thin Back, Bow Belly Blade, Extra Cast Steel, Set and Sharpened, 30 inch,	6 00
0145	H., S., B. & Co's Extra Thin Back, Clock Spring Blade, Set and Sharpened, 30 inch,	6 00

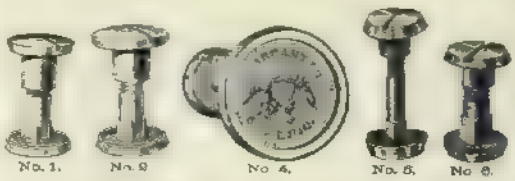
ONE DOZEN IN A PACKAGE.



71	H, S., B. & Co's Improved Cast Steel Set and Sharpened 30 inch,	$0 50

ONE DOZEN IN A PACKAGE.

Saw Screws.



No. 1. No. 2 No. 4. No. 5. No. 6.

NO	DESCRIPTION.	PER GROSS
1	Brass, Centennial,	$2 80
2	Brass, Centennial,	3 25
3	Brass, Centennial, Small Eagle,	4 75
4	Brass, Centennial, Large Eagle,	5 75
5	Brass, Raised,	5 00
6	Iron, Raised,	5 00

SIX P GROSS IN A BOX.

DODGE WOOD SPLIT PULLEYS.

Bushing.

The Dodge Pulley is the most popular and in all respects the best in the market. It was the first wood pulley made to sell commercially. More of them are in use than of all other kinds. *Every pulley* is guaranteed for Double Belt Service.

They are SEVENTY PER CENT. lighter than cast-iron, 40 per cent. lighter than wrought iron pulleys. They afford 25 to 60 per cent. advantage, with same belt, over any Iron pulley made. SEE PRICE LIST FOLLOWING PAGES.

EVERY ONE A SPLIT PULLEY.

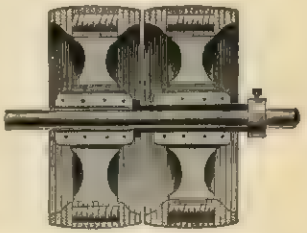
In comparing prices with iron Pulleys, please note carefully the following: Our list is lower than many others. Every Pulley is a Split Pulley, and is guaranteed to transmit from 25 to 60 per cent. more power than Iron, with the same tension of belt. The fastening does not mar the shaft. Can be used on different sizes of shaft. They are in Perfect Balance. They are the most thoroughly made, and the Handsomest Pulley on the shaft. No chances to take, every Pulley guaranteed as represented.

DODGE TIGHT AND LOOSE WOOD PULLEYS.

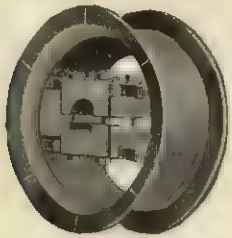
The Dodge Pulley is especially adapted to running "tight and loose." They are better than iron pulleys, and much more convenient, for this purpose.

The loose pulley is furnished with an iron sleeve, accurately bored and fitted with oil chambers, or any style of grease or oil cups desired. Should there be any wear it is a very simple and inexpensive operation to babbitt the sleeve, or replace with a new one.

Wood pulleys used in this way may be used for other purposes in connection with our patent bushing system.



FLANGE PULLEYS.

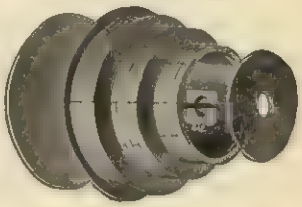


Double Flange Pulley.

Pulleys furnished with one, two, three or any number of flanges.

For prices of Flange Pulleys, add 15 per cent. to Standard Wood Pulley list on following pages for one flange, 20 per cent. for two flanges, 25 per cent. for three flanges, and discount in the regular manner.

CONE PULLEYS.



We are prepared to make Cone Pulleys of any diameter and width of face.

Prices will be the same as for a number of separate pulleys of the same diameter and width of face as the several steps of the cone, plus fifty per cent.

In ordering, state whether the cone should be solid or split.

PRICE LIST OF DODGE WOOD SPLIT PULLEYS.

Diam. in.	Face, in.	Price.	Diam. in.	Face, in.	Price.	Diam. in.	Face, in.	Price.	Diam. in.	Face, in.	Price.	Diam. in.	Face, in.	Price.	Diam. in.	Face, in.	Price.
9	3	$ 2 50	16	7	$ 5 05	23	8	$ 8 40	30	6	$ 9 40	40	24	$ 58 00	52	14	$ 46 00
	4	2 65		8	5 50		9	9 20		7	10 45	42	6	17 50		16	62 50
	5	2 90		9	5 90		10	9 95		8	11 50		7	19 50		18	60 00
	6	3 15		10	6 30		12	12 00		9	12 40		8	21 50		20	68 00
	7	3 28		11	6 65	24	4	5 40		10	13 25		9	23 25		22	77 00
	8	3 40		12	7 00		5	6 35		12	16 50		10	25 00		24	86 25
10	3	2 60	17	3	3 50		6	7 30		14	21 00		12	29 00	54	8	37 50
	4	2 75		4	3 85		7	8 05		16	25 40		14	33 50		9	39 25
	5	3 00		5	4 25		8	8 80	32	4	8 80		16	38 50		10	41 00
	6	3 25		6	4 85		9	9 65		5	9 40		18	43 75		12	45 00
	7	3 40		7	5 35		10	10 45		6	10 30		20	51 00		14	49 50
	8	3 55		8	5 85		12	12 70		7	11 60		22	56 00		16	55 50
	9	3 72		9	6 30		14	15 10		8	12 90		24	63 00		18	64 50
	10	3 90		10	6 70	25	4	5 80		9	13 95	44	6	19 50		20	73 50
11	3	2 70		11	7 10		5	6 65		10	15 00		7	21 65		22	83 00
	4	2 85		12	7 50		6	7 60		12	17 90		8	23 75		24	92 50
	5	3 10	18	3	3 70		7	8 40		14	22 75		9	25 65	56	8	40 50
	6	3 35		4	4 05		8	9 20		16	27 75		10	27 50		9	42 50
	7	3 53		5	4 55		9	9 85		18	32 25		12	31 50		10	44 50
	8	3 70		6	5 10		10	10 90	34	4	9 60		14	36 00		12	48 50
	9	3 90		7	5 65		12	13 40		5	10 50		16	40 75		14	53 50
	10	4 10		8	6 20		14	16 25		6	11 50		18	46 00		16	60 00
12	3	2 80		9	6 65	26	4	6 35		7	13 00		20	54 00		18	69 50
	4	2 95		10	7 10		5	7 00		8	14 50		22	59 00		20	84 00
	5	3 20		11	7 55		6	7 95		9	15 75		24	67 00		22	93 25
	6	3 55		12	8 00		7	8 80		10	17 00	46	6	22 00		24	102 50
	7	3 70	19	4	4 25		8	9 60		12	20 00		7	24 00	58	8	43 50
	8	3 85		5	4 80		9	10 05		14	24 50		8	26 00		9	46 00
	9	4 08		6	5 50		10	11 40		16	30 00		9	28 00		10	47 50
	10	4 30		7	6 13		11	12 80		18	34 50		10	30 00		12	52 25
	12	5 10		8	6 75		12	14 20	36	4	10 60		12	33 50		14	57 75
13	3	2 90		9	7 15		14	17 50		5	11 90		14	38 50		16	64 25
	4	3 10		10	7 50	27	4	6 78		6	13 00		16	43 00		18	73 75
	5	3 40		11	8 05		5	7 40		7	14 50		18	48 00		20	87 50
	6	3 75		12	8 60		6	8 27		8	16 00		20	58 00		22	95 25
	7	4 00	20	4	4 45		7	9 13		9	17 55		22	64 00		24	104 50
	8	4 25		5	5 20		8	9 95		10	19 10		24	72 00	60	8	47 00
	9	4 53		6	6 00		9	10 63		12	22 50	48	6	24 50		9	49 25
	10	4 80		7	6 60		10	11 75		14	26 50		7	26 25		10	51 50
	12	5 60		8	7 15		12	14 72		16	32 40		8	28 00		12	56 00
14	3	3 00		9	7 60		14	18 25		18	37 00		9	30 50		14	62 00
	4	3 25		10	8 00	28	4	7 20		20	41 50		10	32 50		16	68 50
	5	3 65		12	9 50		5	7 80	38	6	14 50		12	36 00		18	78 00
	6	4 10	21	4	4 70		6	8 60		7	16 05		14	41 00		20	91 00
	7	4 40		5	5 60		7	9 45		8	17 60		16	45 00		22	101 00
	8	4 70		6	6 40		8	10 30		9	19 15		18	50 00		24	111 00
	9	5 02		7	6 95		9	11 20		10	20 70		20	62 00	66	10	57 00
	10	5 35		8	7 50		10	12 10		12	24 75		22	71 50		12	63 50
	12	6 00		9	8 10		12	15 25		14	28 50		24	80 00		14	71 50
15	3	3 10		10	8 65		14	19 00		16	34 50	50	8	31 50		16	80 00
	4	3 45		12	10 40		16	23 00		18	39 25		9	33 50		18	89 00
	5	3 85	22	4	4 95	29	4	7 60		20	45 00		10	35 50		20	100 00
	6	4 35		5	5 90		5	8 20	40	6	16 00		12	39 00		22	115 00
	7	4 75		6	6 85		6	9 00		7	17 50		14	44 00		24	130 00
	8	5 10		7	7 45		7	9 95		8	19 00		16	50 00	72	10	64 00
	9	5 48		8	8 00		8	10 90		9	20 75		18	56 00		12	71 50
	10	5 85		9	8 70		9	11 80		10	22 50		20	65 00		14	80 00
	11	6 18		10	9 40		10	12 67		12	26 75		22	74 50		16	90 00
	12	6 50		12	11 20		12	15 87		14	31 00		24	85 50		18	100 00
16	3	3 30	23	4	5 20		14	20 00		16	36 25	52	8	34 00		20	115 00
	4	3 65		5	6 15		16	24 20		18	41 50		9	36 00		22	131 00
	5	4 05		6	7 05	30	4	8 00		20	48 00		10	38 00		24	145 00
	6	4 60		7	7 70		5	8 60		22	52 50		12	42 00	78	12	95 00

PRICE LIST DODGE WOOD SPLIT PULLEYS.—CONTINUED.

Diam. in.	Face in.	Price.	Diam. in.	Face in.	Price.	Diam. in.	Face in.	Price.	Diam. in.	Face in.	Price.	Diam. in.	Face in.	Price.	Diam. in.	Face in.	Price.
78	14	$114 00	90	16	$141 00	102	18	$233 00	108	20	$258 00	114	7	$ 79 00	120	14	$216 00
	16	114 00		18	154 00		20	256 00		28	340 00		24	146 00		16	271 00
	18	124 00		20	171 00		24	279 00		30	402 00		26	162 00		18	298 00
	20	134 00		22	192 00		24	312 00		32	427 00		28	168 00		20	326 00
	22	149 00		24	217 00		26	321 00		34	451 00		30	180 00		22	356 00
	24	168 00	96	12	140 00		28	347 00		36	476 00		32	192 00		24	387 00
84	12	119 00		14	150 00		30	376 00	114	8	159 00		34	198 00		26	414 00
	14	119 00		16	160 00	108	12	187 00		9	170 00		36	515 00		28	449 00
	16	129 00		18	170 00		14	209 00		10	182 00		38	541 00		30	476 00
	18	143 00		20	192 00		16	232 00		12	205 00		40	568 00		32	496 00
	20	154 00		22	212 00		18	256 00		14	228 00	120	8	177 00		34	524 00
	22	170 00		24	237 00		20	280 00		16	252 00		9	184 00		36	552 00
	24	193 00	102	12	171 00		22	304 00		18	277 00		10	191 00		38	581 00
90	12	125 00		14	182 00		24	329 00		20	303 00		12	221 00		40	609 00
	14	134 00		16	213 00												

DODGE PATENT WEDGE SPLIT PULLEYS.

For Small Diameters.

(Patented.)

Diameter.	Face.	2	3	4	5	6	7	8	9	10	11	12	13	14
	3 inches	2 00	2 20	2 40	2 60	2 80	3 00	3 25	3 50	3 75	4 00	4 35	4 70	5 00
	4 inches	2 00	2 25	2 50	2 75	3 00	3 25	3 60	3 90	4 25	4 50	4 80	5 10	5 50
	5 inches	2 10	2 35	2 65	3 00	3 25	3 60	3 85	4 15	4 40	4 70	5 10	5 50	6 00
	6 inches	2 20	2 50	2 85	3 20	3 55	3 90	4 25	4 45	5 00	5 50	6 00	6 50	7 00
	7 inches	2 30	2 60	2 90	3 30	3 70	4 20	4 70	5 25	5 75	6 25	6 60	7 20	7 75
	8 inches	2 40	2 70	3 00	3 45	3 90	4 40	4 95	5 50	6 00	6 60	7 25	7 75	8 30

All bored 2 7/8 inches, for stock, excepting 3 inch pulleys, which have 2 inch bore.

These pulleys can be furnished for any size shaft up to within one inch of the diameter of the pulley, and can be used with our patent Bushing system.

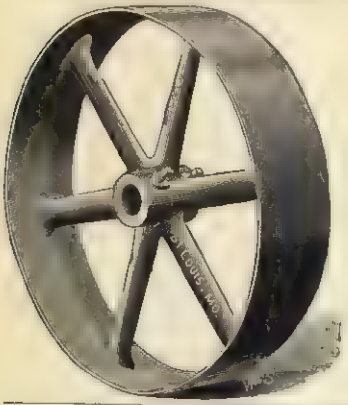
CIPHER FOR ORDERING BY TELEGRAPH.

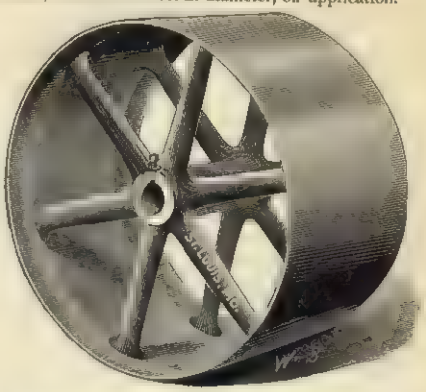
Calipered Diameter of Shaft	Diameter of Pulley.	Width of Face. Inches.		Bushings. Outside Diam.
1 5/8 Nye	3 Morton	30 Judd	3 Lead	Crown face.....David.	2 in. Mary.
1 7/8 Moran	4 Rattle	32 Salem	4 Gold	Straight face.....Solomon	2 3/8 in. Edna.
1 1/4 Butler	5 May	34 Fleet	5 Silver	One pair tight and loose.....Cleveland.	3 in. Ida.
1 1/8 Denmark	6 Jane	36 White	6 Copper	Loose pulley with iron sleeve.....Washington.	3 1/2 in. Nora.
2 3/8 Germany	7 July	38 Shine	7 Iron	Pulleys with discs.....Disc.	4 1/2 in. Carrie.
2 1/8 Japan	8 August	40 Philon	8 Vesey	Dynamo pulleys.....Dynamo.	LENGTHS.
2 1/8 Nevada	9 Painter	42 Slate	9 Rabbit	Wedge or collar pulley.....Mason.	5 Wilson.
2 1/4 Spun	10 Hamlet	44 Lesh	10 Tin	Extra heavy and strong.....Sampson	6 Wheeler.
2 3/8 Baltimore	11 Southern	46 Cruse	11 Brass	Single flange.....Ruth	7 Singer.
3 1/8 Detroit	12 Fly	48 Bliss	12 Steel	Double flange.....Rebecca	8 Hosford
3 1/8 Galena	13 Trip	50 Endlich	13 Banca		10 Fry.
3 1/8 Kensington	14 Miami	52 Wallon	14 Krupp		12 Bissell.
4 Lancaster	15 Indus	54 Ward	15 Antimony		14 Pine.
4 1/8 Quincy	16 Orton	56 Gore	16 Platina		16 Milton
4 1/8 Paris	17 Lake	58 Bright	17 Steam		18 Enterprise.
4 1/4 Salem	18 Miami	60 Crocker	18 Water		20 Gazette.
4 1/8 Colorado	19 Niles	66 Calif	20 Glue		
	20 Osage	72 Wadhams	21 Turp		
	21 Potomac		22 Naphtha		
	22 Rhine		23 Alcohol		
	24 Tweed		24 Maple		
	26 Bass		25 Walnut		
	28 Flake		3/4 Simon		

MACHINE MOULDED IRON PULLEYS.

Bored, Turned and Balanced, and With Key Seat or Set Screws.

We will furnish estimates for any size Pulley or Fly Wheel, not over ten feet in diameter, on application.





Diameter in Inches	Face in Inches	Single Belt.	Double Belt.	Diameter in Inches	Face in Inches	Single Belt	Double Belt.	Diameter in Inches	Face in Inches	Single Belt.	Double Belt.	Diameter in Inches	Face in Inches	Single Belt.	Double Belt.
6	3	$2 55	$3 30	9	7	$4 50	$5 30	12	7	$5 10	$6 10	15	6	$5 45	6 50
	4	2 80	3 60		8	4 85	5 60		8	5 50	6 60		7	5 85	7 00
	5	3 10	3 90		9		6 00		9	5 90	7 15		8	6 25	7 55
	6	3 45	4 20		10		6 40		10	6 25	7 70		9	6 70	8 10
	7	3 80	4 50		11		6 80		11	6 85	8 25		10	7 15	8 65
	8	4 15	4 85		12		7 25		12	7 35	8 80		11	7 70	9 20
	9		5 20		14		8 50		14		9 80		12	8 25	9 75
	10		5 60						16		10 80		14	9 45	11 10
	11		6 00	10	3	3 40	3 90						16		13 00
	12		6 50		4	3 70	4 25	13	3	3 90	4 75				
					5	3 95	4 55		4	4 25	5 10	16	3	4 55	5 55
7	3	2 75	3 60		6	4 30	4 95		5	4 55	5 50		4	4 90	5 95
	4	3 00	3 90		7	4 65	5 50		6	4 95	5 95		5	5 30	6 35
	5	3 35	4 20		8	4 95	5 85		7	5 35	6 40		6	5 65	6 80
	6	3 70	4 50		9	5 30	6 20		8	5 70	6 80		7	6 05	7 30
	7	4 05	4 85		10	5 65	6 60		9	6 10	7 40		8	6 50	7 85
	8	4 45	5 20		11		7 05		10	6 60	7 85		9	6 95	8 40
	9		5 60		12		7 50		11	7 15	8 40		10	7 35	8 95
	10		6 00		14		8 70		12	7 70	9 10		11	7 90	9 50
	11		6 50		16		10 00		14		10 50		12	8 45	10 05
	12		7 00						16		12 00		14	9 85	11 50
				11	3	3 60	4 20						16	11 30	13 10
8	3	3 25	3 65		4	3 90	4 55	14	3	4 15	4 95				
	4	3 45	3 90		5	4 25	5 00		4	4 50	5 35	17	3	4 80	5 85
	5	3 75	4 20		6	4 60	5 45		5	4 90	5 80		4	5 10	6 20
	6	4 05	4 60		7	5 00	5 90		6	5 30	6 20		5	5 50	6 60
	7	4 40	5 05		8	5 40	6 40		7	5 70	6 70		6	5 90	7 00
	8	4 75	5 45		9	5 80	6 80		8	6 15	7 20		8	6 35	7 50
	9		5 90		10	6 15	7 25		9	6 70	7 75		7	6 75	8 05
	10		6 35		11		7 75		10	7 05	8 30		9	7 30	8 60
	11		6 80		12		8 25		11	7 50	8 85		10	7 70	9 15
	12		7 25		14		9 25		12	8 10	9 40		11	8 25	9 70
	14		8 25		16		10 75		14	9 20	10 85		12	8 80	10 25
									16		12 35		14	10 20	11 90
9	3	3 30	3 80	12	3	3 75	4 45						16	11 65	13 55
	4	3 60	4 05		4	4 05	4 85	15	3	4 35	5 65				
	5	3 85	4 35		5	4 40	5 25		4	4 70	5 60	18	3	5 00	6 05
	6	4 20	4 80		6	4 75	5 60		5	5 05	6 05		4	5 35	6 45

Intermediate faces, proportionate prices. See additional prices for Split, Flange and Tight and Loose Pulleys page 370

MACHINE MOULDED IRON PULLEYS—Continued.

Bored, Turned and Balanced, and With Key Seat or Set Screws.

Diameter in Inches.	Face in Inches.	Single Belt.	Double Belt.
18	5	$5 80	$6 90
	6	6 20	7 30
	7	6 65	7 80
	8	7 15	8 40
	9	7 70	9 10
	10	8 30	9 80
	11	8 90	10 55
	12	9 50	11 35
	14	10 90	13 20
	16	12 45	15 05
20	3	5 45	6 55
	4	5 90	7 05
	5	6 40	7 85
	6	6 90	8 70
	7	7 35	9 50
	8	7 85	10 35
	9	8 40	11 15
	10	8 95	12 00
	11	9 55	12 80
	12	10 20	13 65
	14	11 70	15 40
	16	13 35	17 50
	18	15 80	19 60
22	3	5 80	7 00
	4	6 20	7 50
	5	6 70	8 40
	6	7 20	9 35
	7	7 70	10 30
	8	8 20	11 20
	9	8 80	12 15
	10	9 40	13 10
	11	10 00	14 00
	12	10 60	14 95
	14	12 90	17 40
	16	15 40	19 85
	18	18 00	22 35
24	3	6 15	7 50
	4	6 60	7 90
	5	7 10	8 95
	6	7 70	9 90
	7	8 25	10 90
	8	8 90	11 90
	9	9 65	12 85
	10	10 35	13 85
	11	11 05	14 85
	12	11 75	15 85
	14	14 40	18 50
	16	17 80	21 10
	18	20 25	23 75
	20	23 00	26 40
26	3	7 35	8 35
	4	7 75	8 90
	5	8 35	9 85
	6	9 35	10 95
	7	10 40	12 05
	8	11 45	13 20
	9	12 45	14 25
	10	13 50	15 25
	11	14 50	16 40
	12	17 95	17 55
	14	20 55	20 10
	16	23 20	22 70
	18	25 95	25 35
26	20	$29 05	$31 35
28	3	7 90	8 80
	4	8 35	9 35
	5	9 20	10 30
	6	10 25	11 40
	7	11 30	12 65
	8	12 20	13 95
	9	13 25	15 25
	10	14 40	16 45
	11	15 55	17 60
	12	16 65	18 85
	14	19 15	21 75
	16	21 75	24 85
	18	24 85	28 05
	20	28 05	31 25
30	3	8 45	9 30
	4	8 90	9 85
	5	9 85	10 85
	6	10 80	11 95
	7	11 85	13 30
	8	13 05	14 65
	9	14 15	16 10
	10	15 30	17 50
	11	16 50	18 90
	12	17 70	20 40
	14	20 65	23 30
	16	23 65	26 60
	18	26 75	29 80
	20	30 25	33 65
32	3	8 95	9 85
	4	9 45	10 35
	5	10 45	11 45
	6	11 45	12 60
	7	12 55	14 20
	8	13 75	15 70
	9	14 85	17 10
	10	16 05	18 55
	11	17 50	20 15
	12	19 00	21 65
	14	22 65	25 35
	16	26 40	29 15
	18	30 15	32 90
	20	33 90	36 65
	22	37 85	41 80
	24	42 35	46 30
34	3	9 40	10 30
	4	9 90	10 85
	5	11 00	12 00
	6	12 10	13 25
	7	13 40	14 75
	8	14 70	16 55
	9	15 90	18 20
	10	17 05	19 80
	11	18 60	21 50
	12	20 15	23 10
	14	24 30	27 30
	16	28 50	31 45
	18	32 65	35 65
	20	36 85	40 00
	22	42 15	45 75
	24	46 30	50 00
36	3	9 95	10 90
	4	10 45	11 40
36	5	$11 55	$12 65
	6	12 75	13 95
	7	14 10	15 70
	8	15 40	17 65
	9	16 80	19 45
	10	18 10	21 20
	11	19 80	23 10
	12	21 55	24 75
	14	25 95	29 10
	16	30 35	33 50
	18	34 75	37 95
	20	39 15	42 75
	22	44 00	49 50
	24	48 85	54 35
38	4	11 00	12 00
	5	12 20	13 35
	6	13 45	14 85
	7	15 00	17 05
	8	16 60	18 90
	9	18 20	20 90
	10	19 80	22 95
	11	21 60	24 75
	12	23 45	26 95
	14	27 85	31 35
	16	32 25	35 80
	18	36 65	40 35
	20	41 80	45 65
	22	46 95	52 80
	24	52 15	58 05
40	4	11 55	13 10
	5	13 05	14 75
	6	14 50	16 50
	7	16 50	19 10
	8	18 60	21 25
	9	20 70	23 40
	10	22 75	25 85
	11	24 85	28 05
	12	28 95	30 45
	14	31 35	35 20
	16	35 75	40 60
	18	40 15	45 75
	20	44 55	50 60
	22	50 05	59 15
	24	55 55	65 00
42	4	12 50	13 80
	5	14 10	15 50
	6	15 80	17 55
	7	17 80	20 15
	8	19 85	22 65
	9	22 00	24 95
	10	24 20	27 70
	12	28 60	32 45
	14	33 00	37 85
	16	37 95	43 00
	18	42 90	49 05
	20	47 85	54 00
	22	53 35	62 35
	24	59 40	69 05
	26	65 45	75 10
44	4	13 30	14 60
	5	15 15	16 60
	6	17 05	18 55
	7	19 10	21 25
	8	21 30	24 20
44	9	$23 50	$26 75
	10	25 75	29 50
	12	30 25	34 80
	14	35 10	40 35
	16	40 15	46 75
	18	45 35	52 35
	20	50 85	57 85
	22	56 95	67 40
	24	63 00	73 55
	26	69 05	79 85
46	4	14 15	15 30
	5	16 15	17 55
	6	18 30	19 80
	7	20 45	22 55
	8	22 65	25 85
	9	24 90	28 65
	10	27 40	31 45
	12	32 55	37 35
	14	37 40	43 35
	16	42 45	50 05
	18	48 50	56 10
	20	54 55	62 20
	22	61 15	71 80
	24	67 75	78 45
	26	74 35	85 05
48	4	14 95	16 15
	5	17 05	18 60
	6	19 25	20 90
	7	21 55	24 00
	8	23 85	27 30
	9	26 40	29 45
	10	29 05	33 60
	12	34 65	39 90
	14	40 15	46 15
	16	45 65	52 85
	18	51 70	59 55
	20	57 75	66 40
	22	64 35	75 80
	24	70 95	82 45
	26	77 55	89 20
50	6	20 90	24 75
	7	22 75	27 70
	8	25 30	30 90
	9	27 95	34 45
	10	30 95	38 15
	12	37 15	46 00
	14	43 35	53 35
	16	49 50	60 85
	18	55 70	68 40
	20	61 90	76 10
	22	69 20	84 05
	24	76 45	92 05
	26	83 70	100 20
	28	91 05	108 45
52	6	22 55	25 85
	7	24 40	29 15
	8	27 05	32 45
	9	29 80	35 85
	10	32 90	39 40
	12	39 05	47 30
	14	45 65	55 00
	16	52 25	62 80
	18	58 85	70 75

For additional price of Tight and Loose Pulleys see page 370.

MACHINE MOULDED IRON PULLEYS—CONTINUED.

Additional Price to be Added to List Price for Tight and Loose Pulleys (per pair), and Finished Flanged Pulleys (each).

Diameter In Inches	Price Tight and Loose Pulleys	Price Flanged Pulleys	Diameter In Inches	Price Tight and Loose Pulleys	Price Flanged Pulleys.
6 to 8	$1 60	$ 4 65	41 to 44	$ 7 90	$26 40
9 to 10	1 95	5 20	45 to 48	8 60	29 70
11 to 12	2 30	5 75	49 to 52	9 30	33 00
13 to 14	2 65	6 30	53 to 56	10 00	36 30
15 to 16	3 00	7 15	57 to 60	10 70	40 70
17 to 18	3 30	8 00	61 to 66	11 70	46 20
19 to 20	3 70	8 80	67 to 72	12 70	51 70
21 to 22	4 05	9 90	73 to 78	13 70	57 20
23 to 24	4 40	11 00	79 to 84	14 70	62 70
25 to 26	4 75	12 10	85 to 90	15 70	68 20
27 to 28	5 10	13 75	91 to 96	16 70	73 70
29 to 30	5 45	15 40	97 to 102	17 70	79 70
31 to 32	5 80	17 05	103 to 108	18 70	85 80
33 to 34	6 15	18 70	109 to 114	19 70	91 30
35 to 36	6 50	20 35	115 to 120	20 70	96 80
37 to 40	7 20	23 10			

ADDITIONAL TO BE ADDED TO LIST PRICES FOR CAST IRON SPLIT PULLEYS FINISHED.

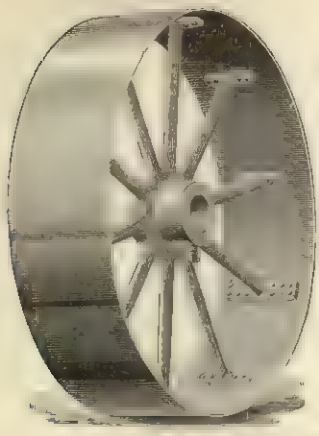
Diameter In Inches	Face In Inches	Price	Diameter In Inches	Face In Inches	Price	Diameter In Inches	Face In Inches	Price
8 to 10	2 to 3	$ 1 30	24 to 30	3 to 4	$ 3 60	38 to 47	21 to 30	$ 27 00
	4 to 6	1 75		5 to 6	4 40		31 to 40	37 00
	7 to 10	2 15		7 to 10	5 40	48 to 60	5 to 6	10 00
	11 to 14	3 10		11 to 14	7 25		7 to 10	13 00
	15 to 20	4 00		15 to 20	10 00		11 to 14	18 00
				21 to 30	14 00		15 to 20	25 00
11 to 18	2 to 3	1 50					21 to 30	34 50
	4 to 6	2 20	32 to 36	3 to 4	4 50		31 to 40	48 00
	7 to 10	2 85		5 to 6	5 60			
	11 to 14	4 00		7 to 10	6 75	60 to 84	7 to 10	20 00
	15 to 20	5 25		11 to 14	9 80		11 to 14	26 00
				15 to 20	13 00		15 to 20	35 00
19 to 23	3 to 4	2 65		21 to 30	19 00		21 to 30	48 00
	5 to 6	3 40	38 to 47	3 to 4	6 50		31 to 40	64 00
	7 to 10	4 05		5 to 6	7 50	85 to 120	11 to 14	38 00
	11 to 14	5 60		7 to 10	9 90		15 to 20	53 50
	15 to 20	7 30		11 to 14	13 50		21 to 30	70 00
	21 to 30	11 00		15 to 20	18 00		31 to 40	90 00

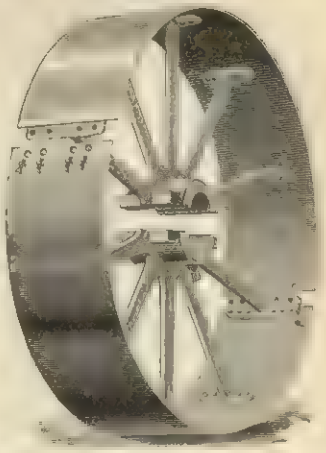
IRON CONE PULLEYS.

These prices are for Single Pulleys. In figuring price on Cone complete, add together the prices of the various pulleys forming the Cone. Made to Order only.

PATENT WROUGHT RIM PULLEYS.

Made Whole Rim, Split Pattern, Tight and Loose, for Single and Double Belts.





REVISED PRICE LIST, JANUARY, 1895.

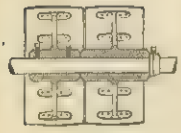
Diameter.	Face.	PRICE. Single Belt	PRICE. Double Belt.
8	3	$2 95	$3 30
	4	3 15	3 55
	5	3 40	3 80
	6	3 70	4 20
	7	4 00	4 60
	8	4 30	4 95
9	3	3 00	3 45
	4	3 25	3 70
	5	3 50	3 95
	6	3 80	4 35
	7	4 10	4 80
	8	4 40	5 10
10	3	3 10	3 55
	4	3 35	3 85
	5	3 60	4 15
	6	3 90	4 50
	7	4 20	5 00
	8	4 50	5 30
	9	4 80	5 65
	10	5 15	6 00
11	3	3 25	3 80
	4	3 55	4 15
	5	3 85	4 55
	6	4 20	4 95
	7	4 55	5 35
	8	4 90	5 80
	9	5 25	6 20
	10	5 60	6 60
12	3	3 40	4 05
	4	3 70	4 40
	5	4 00	4 75
	6	4 30	5 10
	7	4 65	5 55
	8	5 00	6 00
	9	5 35	6 50
	10	$5 70	$7 00
	12	6 70	8 00
13	3	3 55	4 30
	4	3 85	4 65
	5	4 15	5 00
	6	4 50	5 40
	7	4 85	5 80
	8	5 20	6 20
	9	5 55	6 65
	10	6 00	7 15
	12	7 00	8 25
14	3	3 75	4 50
	4	4 10	4 85
	5	4 45	5 25
	6	4 80	5 65
	7	5 20	6 10
	8	5 60	6 55
	9	6 10	7 05
	10	6 40	7 55
	12	7 35	8 55
	14	8 35	9 85
15	3	3 95	4 75
	4	4 25	5 10
	5	4 60	5 50
	6	4 95	5 90
	7	5 30	6 35
	8	5 70	6 85
	9	6 10	7 35
	10	6 50	7 85
	12	7 50	8 85
	14	8 60	10 10
16	3	4 15	5 05
	4	4 45	5 40
	5	4 80	5 75
	6	5 15	6 20
	7	$5 50	$6 65
	8	5 90	7 15
	9	6 30	7 65
	10	6 70	8 15
	12	7 70	9 15
	14	8 95	10 45
	16	10 25	11 90
17	3	4 35	5 30
	4	4 65	5 65
	5	5 00	6 00
	6	5 35	6 35
	7	5 75	6 80
	8	6 15	7 30
	9	6 65	7 80
	10	7 00	8 30
	12	8 00	9 30
	14	9 25	10 80
	16	10 60	12 30
18	3	4 55	5 50
	4	4 85	5 85
	5	5 25	6 25
	6	5 65	6 65
	7	6 05	7 10
	8	6 50	7 65
	9	7 00	8 25
	10	7 55	8 90
	12	8 65	10 30
	14	9 90	12 00
	16	11 30	13 70
	18	13 40	16 40
19	3	4 80	5 75
	4	5 20	6 20
	5	5 65	6 65
	6	6 05	7 10
	7	6 45	7 55
	8	$6 95	$8 30
	9	7 45	9 00
	10	8 00	9 75
	12	9 10	11 30
	14	10 40	13 10
	16	11 80	14 90
20	3	4 95	5 95
	4	5 35	6 40
	5	5 80	7 15
	6	6 25	7 90
	7	6 70	8 65
	8	7 15	9 40
	9	7 65	10 15
	10	8 15	10 90
	12	9 25	12 40
	14	10 65	14 00
	16	12 15	15 90
21	3	5 10	6 15
	4	5 50	6 60
	5	5 95	7 40
	6	6 40	8 20
	7	6 85	9 00
	8	7 30	9 80
	9	7 85	10 60
	10	8 40	11 40
	12	9 50	13 00
	14	11 00	15 00
	16	13 00	17 00
22	3	5 25	6 35
	4	5 65	6 80
	5	6 10	7 65
	6	6 55	8 50
	7	7 00	9 35
	8	7 45	10 20
	9	8 00	11 05

PATENT WROUGHT RIM PULLEYS—Continued.

Diameter	Face	PRICE. Single Belt	PRICE. Double Belt
22	10	$8 55	$11 90
	12	9 65	13 60
	14	11 75	15 80
	16	14 00	18 05
23	3	5 40	6 55
	4	5 80	7 00
	5	6 25	7 85
	6	6 70	8 70
	7	7 15	9 55
	8	7 60	10 40
	9	8 15	11 25
	10	8 75	12 10
	12	9 95	13 80
	14	12 25	16 15
	16	15 30	18 55
24	3	5 60	6 80
	4	6 00	7 20
	5	6 45	8 15
	6	7 00	9 00
	7	7 50	9 90
	8	8 10	10 80
	9	8 75	11 70
	10	9 40	12 60
	12	10 70	14 40
	14	13 10	16 80
	16	16 20	19 20
25	3	6 30	7 30
	4	6 65	7 75
	5	7 30	8 70
	6	8 05	9 60
	7	9 00	10 65
	8	9 80	11 75
	9	10 35	12 45
	10	11 25	13 40
	12	13 40	15 50
	14	15 60	17 50
	16	17 90	19 80
26	3	6 70	7 60
	4	7 05	8 10
	5	7 60	8 95
	6	8 50	9 95
	7	9 45	10 95
	8	10 40	12 00
	9	11 30	12 95
	10	12 25	13 85
	12	14 10	15 95
	14	16 30	18 25
	16	18 70	20 65
	18	21 10	23 05
	20	23 60	25 60
27	3	6 90	7 75
	4	7 30	8 25
	5	7 90	9 10
	6	8 85	10 10
	7	9 80	11 30
	8	10 75	12 50
	9	11 70	13 50
	10	12 70	14 50
	12	14 60	16 50
	14	16 90	19 00
	16	19 30	21 60
	18	21 60	23 90
	20	24 50	26 80
28	3	7 20	8 00
	4	$7 60	$8 50
	5	8 35	9 35
	6	9 30	10 35
	7	10 25	11 50
	8	11 10	12 70
	9	12 05	13 85
	10	13 10	14 95
	12	15 15	17 15
	14	17 40	19 75
	16	19 75	22 40
	18	22 60	25 50
	20	25 50	28 40
29	3	7 45	8 20
	4	7 85	8 70
	5	8 65	9 60
	6	9 55	10 55
	7	10 50	11 85
	8	11 45	13 10
	9	12 40	14 20
	10	13 50	15 30
	12	15 60	17 85
	14	18 05	20 50
	16	20 65	23 45
	18	23 20	26 00
	20	26 30	29 15
30	3	7 70	8 45
	4	8 10	8 95
	5	8 95	9 85
	6	9 80	10 85
	7	10 75	12 10
	8	11 85	13 30
	9	12 85	14 65
	10	13 90	15 90
	12	16 10	18 55
	14	18 75	21 20
	16	21 50	24 20
	18	24 30	27 10
32	3	8 15	8 95
	4	8 60	9 40
	5	9 50	10 40
	6	10 40	11 45
	7	11 40	12 90
	8	12 50	14 25
	9	13 50	15 55
	10	14 60	16 85
	12	17 25	19 70
	14	20 60	23 05
	16	24 00	26 50
	18	27 40	29 90
	20	30 80	33 30
34	3	8 55	9 35
	4	9 00	9 85
	5	10 00	10 90
	6	11 00	12 05
	7	12 20	13 40
	8	13 35	15 05
	9	14 45	16 55
	10	15 50	18 00
	11	16 90	19 55
	12	18 30	21 00
	16	25 90	28 60
	18	29 70	32 40
	20	33 50	36 35
36	3	9 05	9 90
	4	$ 9 50	$10 35
	5	10 50	11 50
	6	11 60	12 70
	7	12 80	14 25
	8	14 00	16 05
	9	15 25	17 70
	10	16 45	19 25
	12	19 60	22 50
	14	23 60	26 45
	16	27 60	30 45
	18	31 60	34 50
	20	35 60	38 85
	22	40 00	45 00
	24	44 40	49 40
38	4	10 00	10 90
	5	11 10	12 15
	6	12 25	13 50
	7	13 65	15 50
	8	15 10	17 20
	9	16 55	19 00
	10	18 00	20 85
	12	21 30	24 50
	14	25 30	28 50
	16	29 30	32 55
	18	33 30	36 70
	20	38 00	41 50
	22	42 70	48 00
	24	47 40	52 75
40	4	10 50	11 90
	5	11 85	13 40
	6	13 20	15 00
	7	15 00	17 35
	8	16 90	19 30
	9	18 80	21 25
	10	20 70	23 50
	12	24 50	27 70
	14	28 50	32 00
	16	32 50	36 90
	18	36 50	41 60
	20	40 50	46 00
	22	45 50	53 75
	24	50 50	59 10
42	4	11 35	12 55
	5	12 80	14 10
	6	14 35	15 95
	7	16 20	18 30
	8	18 05	20 60
	9	20 00	22 70
	10	22 00	25 20
	11	24 00	27 40
	12	26 00	29 50
	14	30 00	34 40
	16	34 50	39 10
	18	39 00	44 60
	20	43 50	49 10
	22	48 50	56 70
	24	54 00	62 75
44	4	12 10	13 25
	5	13 75	15 10
	6	15 50	16 85
	7	17 35	19 50
	8	19 35	22 60
	9	21 35	24 30
	10	23 40	26 80
	12	27 50	31 65
44	14	$31 90	$36 70
	16	36 50	42 50
	18	41 25	47 60
	20	46 25	52 60
	22	51 75	61 25
	24	57 25	66 85
46	4	12 85	13 90
	5	14 70	15 95
	6	16 65	18 00
	7	18 60	20 50
	8	20 60	23 50
	9	22 65	26 05
	10	24 90	28 60
	12	29 60	33 95
	14	34 00	39 40
	16	38 60	45 50
	18	44 10	51 00
	20	49 60	56 55
	22	55 60	65 25
	24	61 60	71 30
48	4	13 60	14 70
	5	15 50	16 90
	6	17 50	19 00
	7	19 60	21 80
	8	21 70	24 80
	9	24 00	27 70
	10	26 40	30 55
	12	31 50	36 25
	14	36 50	41 95
	16	41 50	48 05
	18	47 00	54 15
	20	52 50	60 35
	22	58 50	68 90
	24	64 50	74 95
52	6	20 50	23 50
	7	22 20	26 50
	8	24 60	29 50
	9	27 10	32 60
	10	29 90	35 80
	11	32 70	39 40
	12	35 50	43 00
	14	41 50	50 00
	16	47 50	57 10
	18	53 50	64 30
	20	59 50	72 00
	22	65 75	79 60
	24	72 00	87 10
54	6	22 00	25 00
	7	23 70	28 05
	8	26 20	31 20
	9	28 80	34 45
	10	31 60	37 70
	12	37 40	44 90
	14	43 75	51 90
	16	50 50	59 00
	18	56 75	66 30
	20	63 00	73 80
	22	70 00	81 40
	24	76 40	89 40
56	6	23 50	26 50
	7	25 20	29 60
	8	27 70	32 80
	9	30 50	36 25
	10	33 30	39 50

Prices on larger sizes furnished on application.

PLAIN TIGHT AND LOOSE WROUGHT RIM PULLEYS.



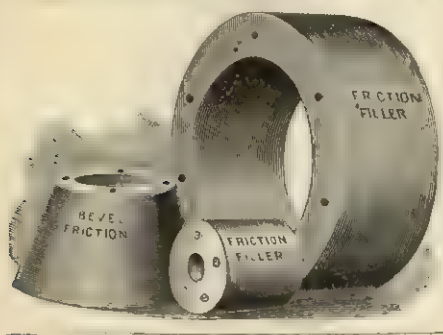
Additional prices per pair to be added to list on whole pulleys.

Face.	3	4	5	6	7	8	9	10	11	12
Bore.										
1 3/16	$0 80	1 10	1 40	1 70	2 00	2 30	2 60	2 90	3 20	3 50
1 1/4	95	1 25	1 60	1 95	2 30	2 65	2 90	3 25	3 60	3 95
1 7/16	1 15	1 45	1 80	2 15	2 50	2 85	3 20	3 55	3 90	4 30
1 1/2	1 30	1 65	2 00	2 35	2 70	3 05	3 40	3 75	4 20	4 70
2 5/16	1 45	1 80	2 20	2 65	3 10	3 55	4 00	4 45	4 90	5 35
2 3/8	1 60	2 05	2 50	2 95	3 40	3 85	4 30	4 75	5 20	5 65
2 7/16	1 80	2 25	2 70	3 15	3 60	4 05	4 50	4 95	5 40	5 90
2 1/2	2 05	2 50	2 95	3 45	3 95	4 45	4 95	5 45	5 95	6 45

FLANGED WROUGHT RIM PULLEYS.

Prices to be added to list of plain pulleys and apply to each flange in center or on edge of pulley.

Diameter inches.	4 to 5	6 to 8	9 to 10	11 to 12	13 to 16	17 to 20	21 to 24	25 to 28	29 to 32	33 to 36	37 to 40	41 to 44	45 to 48
Height of flange, in	5/8	5/8	5/8	5/8	5/8	5/8	5/8	3/4	3/4	3/4	1	1	1
Price for each flge	$0 95	1 40	3 20	3 85	4 25	4 75	5 20	5 85	6 35	6 80	8 00	9 00	10 75



PAPER FRICTION WHEELS, AND PAPER FILLERS.

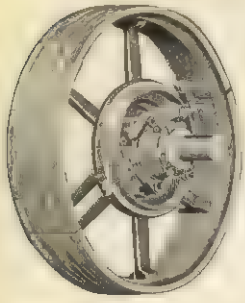
(ROCKWOOD'S PATENT.)

These FRICTIONS are made from best CALENDERED STRAW BOARD, cemented and subjected to HYDRAULIC PRESSURE, and are consequently very dense and durable, far more so than anything heretofore in use. We are prepared to furnish these in any size or shape, either straight face or bevel, bored and ready turned for flanges, or complete with flanges. When ordering FILLERS it is better to send flanges, but patterns cut from stiff paper, showing bolt holes, with diameter, face and bore, given in inches, will answer. For bevels, give largest diameter and degree of angle.

Diam.	Face.	Pressed Friction Roll or Filler	Friction Wheel Complete with Flanges	Diam.	Face.	Pressed Friction Roll or Filler	Friction Wheel Complete with Flanges.	Diam.	Face.	Pressed Friction Roll or Filler	Friction Wheel Complete with Flanges	Diam.	Face.	Pressed Friction Roll or Filler	Friction Wheel Complete with Flanges.
6	6	$3 14	$4 80	10	8	$6 34	$10 58	13	8	$ 9 54	$15 18	16	4	$ 7 22	$13 12
	8	2 60	5 32		9	7 06	11 66		9	10 64	16 68		6	10 46	17 06
					10	7 78	12 64		10	11 76	18 12		8	13 70	21 02
7	4	1 80	4 00		12	9 22	14 62		12	13 98	20 98		9	15 32	23 12
	5	2 23	4 62										10	16 94	25 10
	6	2 64	5 28	11	4	3 96	7 44						12	20 18	29 06
	8	3 48	6 58		6	5 64	9 66								
					8	7 32	11 88	14	4	5 84	10 62				
8	4	2 14	4 58		9	8 16	13 08		6	8 42	13 62	17	4	7 98	14 38
	5	2 64	5 28	10	8 06	14 20		8	11 00	17 14		6	11 58	18 70	
	6	3 16	6 04	12	10 68	16 42		9	12 30	18 72		8	15 18	23 02	
	8	4 18	7 52					10	13 58	20 34		9	16 98	25 80	
				12	4	4 46	8 38	12	16 16	23 54		10	18 78	27 46	
9	4	2 70	5 40		6	6 38	10 72					12	22 38	31 78	
	5	3 30	6 22		8	8 30	13 20								
	6	3 90	7 06		9	9 26	14 52	15	4	6 48	11 68	18	4	8 72	15 62
	8	5 10	8 70		10	10 22	15 74		6	9 36	15 18		6	12,68	20 30
	9	5 70	9 54		12	12 14	18 20		8	12 24	18 70		8	16 64	24 98
									9	13 68	20 52		9	18 62	27 44
10	4	3 46	6 62	13	4	5 10	9 48		10	15 12	22 30		10	20 50	29 75
	6	4 90	8 60		6	7 32	12 24		12	18 00	25 80		12	24 56	34 46

For Friction Rolls Fillers or Wheels less than 6 inch diameter, use 6 inch list, same discount.

DODGE PATENT SPLIT FRICTION CLUTCHES.

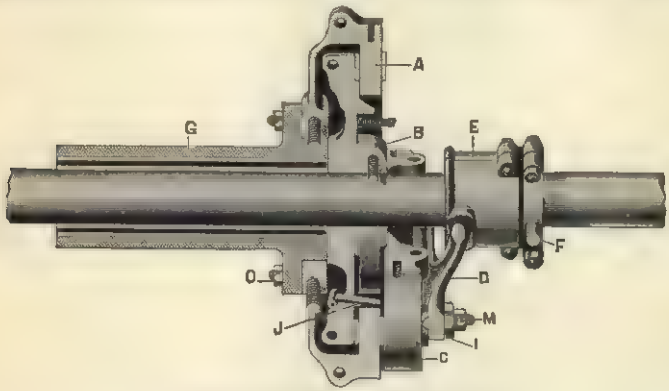


These clutches are to be used in connection with sleeves in driving **Pulleys, Gears, Sprockets, Rope Sheaves, etc.**

The friction contact consists of two flat surfaces brought together by powerful levers, with a heavy, wood filled disc, which presents two "end grain" surfaces for compression contact.

The large area for friction gives positive results without straining or overwearing any part. Wear in the friction rings and disc is easily taken up by adjusting the draw bolts. The toggle levers are not affected by centrifugal force, and the clutch will run successfully at any speed.

Each lever has two points of compression, reducing the number of joints to a minimum. An ordinary laborer can easily erect and adjust the clutch. The extended sleeve is arranged to allow removal for repairs without disturbing the clutch or any line shaft equipment. In erecting and making subsequent repairs a Split Clutch may be handled at less than one-quarter the expense of a solid clutch.



Cut gives enlarged view of clutch fitted on shaft.

We claim superiority in **Perfect Balance, Detachable Sleeve, Simplicity, Positive Friction, Ease of Adjustment, Liberal Clearance, The Split Feature, Reasonable First Cost, Excellent Lubrication, Repairs Easily Made.**

LIST PRICES.

The following list includes Shifter, Yoke and Fulcrum Casting. Extended sleeves are extra, as per list on page 376

Size of Clutch.*	Largest Size Clutch will Bore Inches.	Extreme Outside Diameter, Inches.	H. P. at a 100 Revolutions.	Will drive a Pulley as large as		Price.
				Diameter Inches.	Face Inches.	
10	2 1/2	12	6	28	7	$ 38 50
12	3	16 1/4	10	30	10	45 50
14	3 1/4	18 5/8	15	36	12	54 50
16	4 5/8	20 1/8	19	40	14	70 00
18	5	22 3/8	26	48	16	90 00
20	6	24 7/8	34	52	18	110 00
22	6	27	42	60	18	135 00
24	6 1/2	29 1/4	51	64	20	155 00
26	6 1/2	31 1/2	58	72	22	170 00
30	7 3/4	33	80	86	24	238 00
36	8	40 1/4	126	102	26	310 00
40	10	45 3/8	150	108	30	350 00
42	10	47 3/4	162	114	30	370 00
48	12	54	198	114	36	400 00
54	12	60 1/4	234	120	42	450 00
60	12	67 3/4	270	144	44	540 00

In ordering clutches or requesting prices, state 1.—Speed of shaft. 2.—Size of shaft. 3.—Size of pulley, sprocket or gear. 4.—Amount of power to be transmitted. 5.—Space which can be allowed on shaft.

* Size of clutch is designated by net diameter of friction ring.

TAPS, DIES AND HOLDERS.

"LIGHTNING."

For Bit Brace Use.

The Die is not solid, but in two pieces, and of the same construction as the Dies for our Bolt-cutting Machines. Each Die must have a holder of its own.

	3-16 in.	¼ in.	5-16 in.	⅜ in.	7-16 in.
Die, Tap and Holder, complete	$1.90	$1.90	$1.95	$2.25	$2.35
Die only	1.00	1.00	1.00	1.00	1.15
Tap only	.50	.50	.55	.60	.70
Holders, separately, each					$0 65

Fig. 479

Style B

Fig. 480

Style A.

Fig. 481.

Sectional Cuts showing Die for Style A.

The cut shows a Die and Guide complete; also one taken apart to show the mechanism. The cup headed screw on the right holds the halves together as a hinge, while the size is regulated by the wedge shaped screw on the left, the Die being clamped in the Elastic Holder.

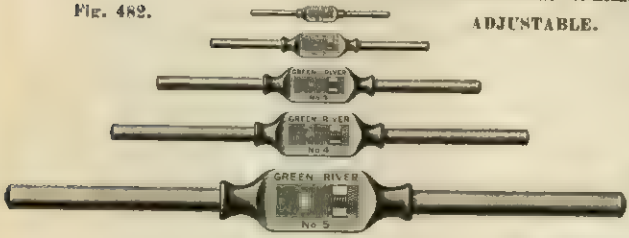
Dies and Guides	$1.20
Holders	.75
Taps. 3-16 in., 50c.; ¼ in., 50c.; 5-16 in., 55c.; ⅜ in., 60c.; 7-16 in., 70c.	

Unless otherwise ordered, we supply these taps and dies ⅛ in. over exact size, for rough iron.

TAP AND REAMER WRENCHES.

ADJUSTABLE.

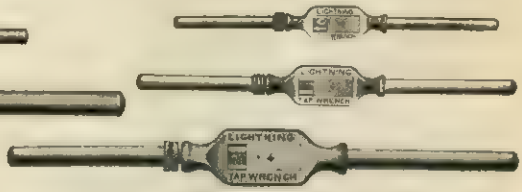
Fig. 482.



Green River Adjustable.

Size No.	Length.	For Taps.	
1	7 in.	¼ in. and smaller	$1 75
2	11 "	5/16 " to ½ in. inclusive	2.35
3	16 "	7/16 " to ⅝ " "	3.00
4	19 "	⅝ " to 1 " "	4.00
5	30 "	⅞ " to 1⅛ " "	8.00

Fig. 483.



Lightning Adjustable.

Size A, length 10½ in., for Taps	5/16 in. to ½ in			$3 00
" B, " 15 " " "	⅝ " to ¾ "			3 50
" C, " 20 " " "	⅞ " to 1 "			5 00

Fig. 484

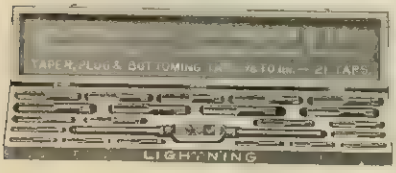


Fig. 485

Fig. 486

No. 4

No. 1—Tap Wrench, with 10 Machine Screw Taps, Nos. 2 to 14, in case $4 10

No 2—Tap Wrench, with 18 Machinist's Hand Taps, 3 16 to ½ inch, in case $9 25

No. 2—Tap Wrenches and Taps in Sets.

No 3—Tap Wrench, with 21 Machinist's Hand Taps, ¼ to ¾ inch, in case $12 75

No. 8

No. 4—Tap Wrench, with 21 Machinist's Hand Taps, ⅜ to 1 inch, in case $17 50

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUTNAM'S Patent Proof

MACHINIST'S AND BLACKSMITHS' DIES.

Fig. 487

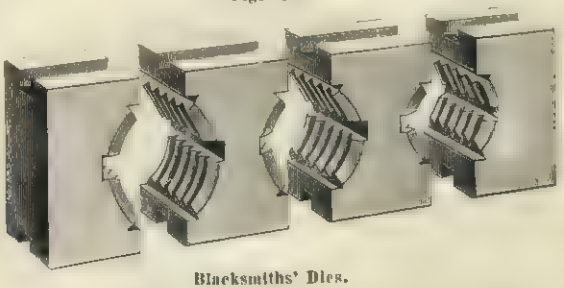
Solid Bolt Dies.

Dies with V threads are kept in stock, and made from steel, 2½ and 3 inches square, as per list below.

SIZES AND PRICES.

Diameter.	No. of Threads to Inch	Size of Square	Price each	Diameter.	No. of Threads to Inch.	Size of Square.	Price each.
¼	18, 20,	2½ x ⅓ inch thick.	$1.80	1 1/8	8	2½ x 1 inch thick	$2.70
5/16	16, 18,	2½ x ½ "	1.80	1 1/4	7	2½ x 1 "	3 00
3/8	14, 16,	2½ x ½ "	1.80	1 3/8	7	2½ x 1 "	3 30
7/16	14,	2½ x ½ "	1.80	1 1/2	6	3 x 1 "	3 60
½	12, 13,	2½ x ¾ "	1.80	1 5/8	6	3 x 1 "	3 90
9/16	12,	2½ x ¾ "	2.00	1 3/4	5	3 x 1 "	4.20
⅝	10, 11,	2½ x ¾ "	2.00	1 7/8	5	3 x 1¼ "	5 40
¾	10,	2½ x ¾ "	2.20	1 15/16	4½	3½ x 1½ "	6 30
⅞	9,	2½ x ¾ "	2.40	2 1/16	4½	4 x 2 "	7 50

Fig. 488.



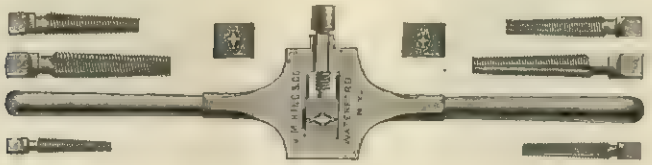
Blacksmiths' Dies.

For No. 1 or 2 Stock	Price, $12.00	For No 25, 27 or 32 Stock	Price, $2 25
" 3 or 4 "	" 10 00	" 33 Stock	" 1 50
" 5 or 5½ "	" 8.00	" 34 "	" 2 00
" 6 Stock	" 6.00	" 35, 37, 38, 41 or 42 Stock	" 1 [illegible]
" 7 or 9 stock	" 3.50	" 45 or 47 Stock	" 2 25
" 11 or 15 "	" 3.00	" 49 or 51 "	" 2 00
" 17 or 19 "	" 2 50	" 53 or 55	" 1 50
" 21 or 23 "	" 2.00		

QUEEN CITY SUPPLY CO. CINCINNATI

BLACKSMITHS' STOCKS AND DIES.

Fig. 489.



SIZES AND PRICES.

	Price.
No. 1.—Cuts 2 inches to 1 inch right hand 4½ and 7 threads to inch, cuts 2 inches to 1 inch left-hand, 4½ and 7 threads to inch; 8 taps and 4 pair of dies	$60.00
" 2.—Cuts 2 inches to ⅞ inch right-hand, 4½, 6, 7 and 8 threads to inch: 8 taps and 4 pair of dies.	60.00
" 3.—Cuts 1¼ inches to ¾ inch right-hand, 6 and 8 threads to inch; cuts 1¼ inches to ¾ inch left-hand, 6 and 8 threads to inch; 8 taps and 4 pair of dies.	45.00
" 4.—Cuts 1⅜ inches to ¾ inch right hand, 6, 7, 8 and 9 threads to inch; 8 taps and 4 pair of dies	45.00
" 5.—Cuts 1½ inches to ⅞ inch right-hand, 8 and 9 threads to inch; cuts 1½ inches to ¾ inch left-hand, 8 and 9 threads to inch; 8 taps and 4 pair of dies	35.00
" 5½.—Cuts 1½ inches to ⅞ inch right-hand, 6, 7, 8 and 9 threads to inch, 8 taps and 4 pair of dies	35.00
" 7.—Cuts 1¼ inches to ⅞ inch right-hand, 8 and 10 threads to inch: cuts 1¼ inches to ¾ inch left-hand, 8 threads to inch; 6 taps and 3 pair of dies	12.00
" 9.—Cuts 1¼ inches to ⅞ inch right-hand, 8, 10 and 12 threads to inch, 6 taps and 3 pair of dies	12.00
" 17.—Cuts 1 inch to ¾ inch right-hand, 9 and 12 threads to inch; cuts 1 inch to ¾ inch left-hand, 9 threads to inch, 6 taps and 3 pair of dies	9.00
" 19.—Cuts 1 inch to ⅞ inch right-hand, 9, 12 and 15 threads to inch, 6 taps and 3 pair of dies	9.00
" 25 Cuts ¾ inch to ⅝ inch right hand, 10 and 16 threads to inch; cuts ¾ inch to ⅝ inch left-hand, 10 threads to inch; 6 taps and 3 pair of dies	6.50
" 27.—Cuts ¾ inch to ⅞ inch right-hand, 10, 12 and 16 threads to inch: 6 taps and 3 pair of dies	6.50
" 45.—Cuts ⅝ inch to ⅞ inch right-hand, 12 and 16 threads to inch; cuts ⅝ inch to ⅞ inch left-hand, 12 threads to inch, 6 taps and 3 pair of dies	5.50
" 47.—Cuts ⅝ inch to ¾ inch right hand, 12, 14 and 18 threads to inch: 6 taps and 3 pair of dies	5.50
" 49.—Cuts ⅝ inch to ¾ inch right-hand, 14 and 18 threads to inch, cuts ⅝ inch to ⅞ inch left hand, 14 threads to inch; 6 taps and 3 pair of dies	4.50
" 51.—Cuts ⅝ inch to ⅞ inch right-hand, 14, 18 and 22 threads to inch, 6 taps and 3 pair of dies	4.50
" 60.—Cuts ⅝ inch to ⅞ inch right hand, 10, 12, 14 and 18 threads to inch, 6 taps and 3 pair of dies	6.50

QUEEN CITY SUPPLY CO CINCINNATI O

PEERLESS PUNCH & DIE CO Prop'rs

BLACKSMITHS' STOCKS AND DIES.

Fig. 490

SIZES AND PRICES.

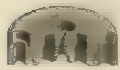
	PRICE
No. 6.—Cuts $1\frac{1}{2}$ inches to 1 inch right-hand, 8 threads to inch; cuts $1\frac{1}{2}$ inches to 1 inch left-hand, 8 threads to inch; 4 taps and 2 sets of dies	$20.00
" 11.—Cuts $1\frac{1}{4}$ inches to $\frac{3}{8}$ inch right-hand, 8 and 10 threads to inch; cuts $1\frac{1}{4}$ inches to $\frac{3}{4}$ inch left-hand, 8 threads to inch; 4 taps and 3 sets of dies	10.00
" 15.—Cuts $1\frac{1}{4}$ inches to $\frac{1}{2}$ inch right-hand, 8, 10 and 12 threads to inch, 5 taps and 3 sets of dies	10.00
" 21.—Cuts 1 inch to $\frac{3}{8}$ inch right-hand, 9 and 12 threads to inch; cuts 1 inch to $\frac{3}{4}$ inch left-hand, 9 threads to inch; 4 taps and 3 sets of dies	6.00
" 23.—Cuts 1 inch to $\frac{1}{2}$ inch right-hand, 9, 10 and 14 threads to inch, 3 taps and 3 sets of dies	5.00
" 32.—Cuts $\frac{3}{4}$ inch to $\frac{1}{2}$ inch right-hand, 10 and 14 threads to inch, cuts $\frac{3}{4}$ inch to $\frac{3}{4}$ inch left-hand, 10 and 14 threads to inch; 4 taps and 4 sets of dies	5.00
" 33.—Cuts $\frac{3}{4}$ inch to $\frac{1}{2}$ inch right-hand, 10 threads to inch, cuts $\frac{3}{4}$ inch to $\frac{1}{2}$ inch left-hand, 10 threads to inch; 2 taps and 2 sets of dies	4.00
" 34.—Cuts $\frac{1}{2}$ inch to $\frac{3}{16}$ inch right-hand, 10, 12 and 16 threads to inch, 3 taps and 3 sets of dies	4.50
" 34 A.—Cuts $\frac{1}{2}$ inch to $\frac{1}{16}$ inch right-hand, 10, 12 and 14 threads to inch; 3 taps and 3 sets of dies	4.50
" 34 B.—Cuts $\frac{1}{2}$ inch to $\frac{1}{16}$ inch right-hand, 12, 14 and 16 threads to inch; 3 taps and 3 sets of dies	4.50
" 35.—Cuts $\frac{1}{4}$ inch to $\frac{3}{8}$ inch right-hand, 10 and 14 threads to inch; 2 taps and 2 sets of dies	4.00
" 37.—Cuts $\frac{3}{8}$ inch to $\frac{1}{16}$ inch right-hand, 14, 18 and 22 threads to inch; 6 taps and 3 sets of dies	4.25
" 37 A.—Cuts $\frac{3}{8}$ inch to $\frac{1}{16}$ inch right-hand, 12, 14 and 16 threads to inch, 6 taps and 3 sets of dies	4.25
" 37 B.—Cuts $\frac{3}{8}$ inch to $\frac{1}{16}$ inch right-hand, 14, 16 and 18 threads to inch, 6 taps and 3 sets of dies	4.25
" 38.—Cuts $\frac{3}{8}$ inch to $\frac{5}{16}$ inch right-hand, 12 and 18 threads to inch; cuts $\frac{3}{8}$ inch to $\frac{7}{16}$ inch left-hand, 12 threads to inch; 6 taps and 3 sets of dies	4.50
" 41.—Cuts $\frac{3}{8}$ inch to $\frac{1}{2}$ inch right-hand, 16, 20 and 26 threads to inch, 6 taps and 3 sets of dies	3.25
" 41 A.—Cuts $\frac{3}{8}$ inch to $\frac{1}{2}$ inch right-hand, 14, 16 and 18 threads to inch; 6 taps and 3 sets of dies	3.25
" 41 B.—Cuts $\frac{3}{8}$ inch to $\frac{1}{2}$ inch right-hand, 16, 18 and 20 threads to inch, 6 taps and 3 sets of dies	3.50
" 42.—Cuts $\frac{3}{8}$ inch to $\frac{1}{16}$ inch right-hand, 14 and 20 threads to inch, cuts $\frac{1}{2}$ inch to $\frac{5}{16}$ inch left-hand, 14 threads to inch; 6 taps and 3 sets of dies	3.50
" 53.—Cuts $\frac{1}{16}$ inch to $\frac{1}{4}$ inch right-hand, 16, 20, 24 and 32 threads to inch, 4 taps and 4 sets of dies	2.75
" 55.—Cuts $\frac{5}{16}$ inch to $\frac{1}{16}$ inch right-hand, 18, 24 and 32 threads to inch, 4 taps and 3 sets of dies	2.50

SCREW PLATES.

"LIGHTNING."

Fig. 491.

Sectional View of Die.



Section of Die.

Die and Guide Complete.

USED IN PLATES No. 0 AND A.

THE cut shows a Die and guide complete, also a Die taken apart to show the mechanism. The cup-headed screw on the right holds the halves together as a hinge, while the size is regulated by the wedge-shaped screw on the left, the Die being clamped in the elastic stock. It is readily adjusted without the danger of breakage, common to Dies open only on one side and solid on the other. The screws cut with the "Lightning" Screw Plate are far more perfect than can be made with ordinary Dies, and equal to the best lathe work, being neatly and sharply cut in the bolts instead of being jambed out of the iron. No burr is raised above the true size **It finishes the work at one cut,** notwithstanding which, its operation is easier than the first trial with the common plate. With it a man can cut **1 1-2** inch bolts without help, and say thread **3** inches long, ONE IN THREE MINUTES.

Nuts and bolts threaded with it need not be matched and kept together they always correspond

The Dies, having all the strength and reliability of solid dies, are NOT SOLID, but are adjustable for wear, so as to keep the exact size of the taps, notwithstanding long use, and to allow nuts and bolts for different purposes to be made to fit together tightly or loosely as may be desired. When used up they can be replaced, the stocks, collets, etc., remaining good.

The collets holding the Dies have guides for starting bolts true, BUT WHEN DESIRABLE TO CUT CLOSE UNDER THE HEADS OF BOLTS THE FACE SIDE OF THE DIE IS USED.

Fig. 492.

THE LIGHTNING SCREW PLATE
THIS SCREW PLATE CUTS WIRE SIZES FROM NO. 2 TO NO. 18
AND TAPS 9 DIES MAY BE USED IN A MACHINE OR BIT BRACE IF DESIRED.
HOLDERS FOR THESE PURPOSES BEING INCLUDED IN THE SET DIES & TAP WRENCH ADJUSTABLE WITHOUT SPRINGING AVOIDING ALL DANGER OF BREAKING

SET No. 0, with 14 sizes, $\frac{5}{64}$ to $\frac{1}{2}$ inch, Stock, Tap Wrench (fitting in stock), Bit Brace Holder, and Holder for lathe use.

Usual assortments $\frac{5}{64}$, $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{11}{64}$, $\frac{3}{16}$, $\frac{13}{64}$, $\frac{7}{32}$, $\frac{15}{64}$, $\frac{1}{4}$, $\frac{17}{64}$, $\frac{9}{32}$, or with screw gauge sizes, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16. (Other sizes if preferred may be selected from tables page 214).

Price, complete, in case (either set).....$15.00

Stock 6 inches long; diameter of Dies $\frac{3}{4}$ inch. Will send above sets $\frac{1}{32}$ oversize, V thread, unless otherwise ordered. Exact sizes V, U. S. Standard, Franklin Institute or Whitworth form of thread at regular prices when ordered.

SCREW PLATES.

LIGHTNING.

Fig. 493

Fig. 494

SET No 0, with Stock, Tap Wrench (fitting in stock) and five sizes Taps, Dies and Guides. Usual assortments, $\frac{1}{8}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{7}{32}$, $\frac{1}{4}$, or Screw Gauge sizes, 4, 6, 8, 10, 12.
Price, complete, in case (either set) . . $5.50 | Stock, 6 inches long; Diameter of Dies, $\frac{3}{4}$ inch.

Fig. 495

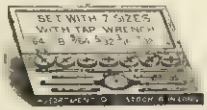


Fig. 496

SET No. 0, with Stock, Tap Wrench (fitting in stock) and seven sizes Taps, Dies and Guides; usual assortments, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{7}{32}$, $\frac{1}{4}$, or Screw Gauge sizes, 4, 6, 8, 10, 12, 14, 16.
Price, complete, in case (either set) $7 00 | Stock six inches long, Dies $\frac{3}{4}$ inch diamerter.

Sizes of Taps and Dies furnished with No. 0 Lightning Screw Plates.

Sizes	No. of Threads to Inch.	Sizes	No of Threads to Inch.
$\frac{1}{64}$	**60**	$\frac{3}{16}$	24, 28, 30 and **32**
$\frac{1}{32}$	**48**, 56 and 60	$\frac{13}{64}$	24, **28** and 32
$\frac{5}{64}$	32, 36, 40, **44**, 48	$\frac{7}{32}$	22, 24, **28**, 30 and 32
$\frac{3}{32}$	32, 36, 40 and 44	$\frac{15}{64}$	22, **24**, 28 and 32
$\frac{7}{64}$	30, 32, 36 and **40**	$\frac{1}{4}$	18, 20, 22, **24** and 32
$\frac{1}{8}$	30, 32, **36** and 40	$\frac{17}{64}$	18, **20**, 24 and 32
$\frac{11}{64}$	32, **36** and 40	$\frac{9}{32}$	18, **20** and 24

Screw Gauge Sizes for Machine Screws.

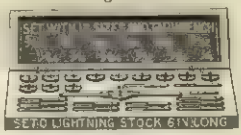
Sizes.	No. of Threads to Inch.	Sizes.	No of Threads to Inch.
2	48, **56** and 64	11	**24**, 28 and 30
3	40, **48** and 56	12	20, 22 and **24**
4	32, **36** and 40	13	**20** and 24
5	30, **32**, 36 and 40	14	**20**, 22 and 24
6	30, **32**, 36 and 40	15	18, **20** and 24
7	28, 30 and **32**	16	16, **18**, 20 and 24
8	24, **30** and 32	17	16, **18** and 20
9	24, 28, **30** and 32	18	16, **18** and 20
10	**24**, 28, 30 and 32		

Unless the number of threads are specified, we will always fill orders for No 0 Plates, or Dies and Taps, with the threads indicated in above table by the heavy type.

Fig. 497

SET No. 0, with Stock, Tap Wrench (fitting in stock), and 10 sizes Taps, Dies and Guides. Usual assortments, $\frac{1}{16}$, $\frac{6}{64}$, $\frac{8}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{3}{16}$, $\frac{7}{32}$, $\frac{1}{4}$ inch or an equal number of Screw Gauge sizes.
Price, complete, in case $9.75
Stock, 6 inches long; Diameter of Dies, $\frac{3}{4}$ inch.

Fig. 498



SET No. 0, with Stock, Tap Wrench (fitting in stock) and sizes Taps, Dies and Guides. Usual assortments, $\frac{5}{64}$, $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{11}{64}$, $\frac{3}{16}$, $\frac{13}{64}$, $\frac{7}{32}$, $\frac{15}{64}$, $\frac{1}{4}$ inch or an equal number of Screw Gauge sizes.
Price, complete, in case . . $11.25
Stock, 6 inches long; diameter of dies, $\frac{3}{4}$ inch.

Prices on special sets for bicycle work given on application.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SCREW PLATES.

"LIGHTNING."

Fig. 499.

SET No. O, with Stock, Tap Wrench (fitting in stock) and 15 sizes Taps, Dies and Guides.

Usual assortments, $\frac{1}{16}$, $\frac{5}{64}$, $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{11}{64}$, $\frac{3}{16}$, $\frac{13}{64}$, $\frac{7}{32}$, $\frac{15}{64}$, $\frac{1}{4}$, $\frac{17}{64}$, $\frac{9}{32}$ inch, or an equal number of Screw Gauge sizes.

Price, complete, in case..... .....$13 75

Stock 6 in. long; diameter of Dies, $\frac{7}{8}$ in.

Fig. 500.

SET No. O, with Stock Tap, Wrench (fitting in stock) and 30 sizes Taps, Dies and Guides.

Usual assortments, $\frac{1}{16}$, $\frac{5}{64}$, $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$, $\frac{9}{64}$, $\frac{5}{32}$, $\frac{11}{64}$, $\frac{3}{16}$, $\frac{13}{64}$, $\frac{7}{32}$, $\frac{15}{64}$, $\frac{1}{4}$, $\frac{17}{64}$, $\frac{9}{32}$ inch, and Screw Gauge sizes, Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

Price, complete, in case $26.00

Stock 6 in. long; diameter of Dies, $\frac{7}{8}$ in.

Fig. 501.

SET A I, complete set, with Taps, Dies and Guides, $\frac{1}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$ and $\frac{7}{16}$ inch Stock Bit Brace Holder and Nut Wrenches.

Price, in case, without Tap Wrench $10.00

Diameter of Dies in this set, $1\frac{5}{16}$ inch.

With Tap Wrench No. 2..... . .$12 35

Fig. 502.

Fig. 503.

SET A, $\frac{3}{16}$ to $\frac{7}{16}$ inch; Stock 10 inches long, and 5 sizes Taps, Dies and Guides, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$ inch, or for Screw Gauge sizes Nos. 14, 16, 18, 20 and 24.

Price (either set), without Tap Wrench..... . . $ 8.00

Price, with Tap Wrench, complete 10 35

Dies, $1.00 each. Guides, 20c each Bit Brace Holder for Dies, extra, 75c. Diameter of Dies in this set, $1\frac{5}{16}$ inch Adjustable Tap Wrench, size No. 2, $2.35. Holders for Dies in Sets A and A 1, to use in machine or bit brace, each, 75c. Will send above sets (except Screw Gauge sizes) $\frac{1}{32}$ oversize, V thread, unless otherwise ordered. Exact sizes V, U. S. Standard, Franklin Institute or Whitworth form of thread, at regular prices when ordered.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCKTA PERFD & C'D Prapc's

SCREW PLATES.

"LIGHTNING."

Fig. 504.

SET C, ¼ to 1 inch. Stock 29 inches long. 9 sizes, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, ⅞, 1 inch

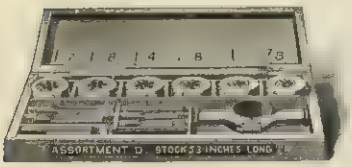
Price complete $25.50
With adjustable Tap Wrench 31.85

Diameter of Collets in this set 2¾ inch

SET C, ½ to 1 inch. Stock 29 inches long Sizes, ½, ⅝, ¾, ⅞, 1 inch Taps, Dies and Collets

Price complete $18.50
With Adjustable Tap Wrench 22.50

Fig. 505.



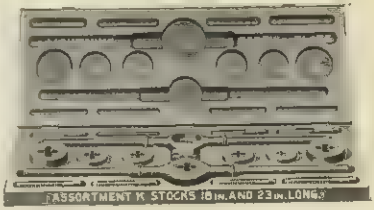
SET D, ⅜ to 1½ inch. Stock 53 inches long 6 sizes, ⅜, 1, 1⅛, 1¼, 1⅜, 1½ inch.

Price complete $50.00

Diameter of Collets in this set 4¼ inch.

Adjustable Tap Wrench, size No 5 $8.00

Fig. 06.

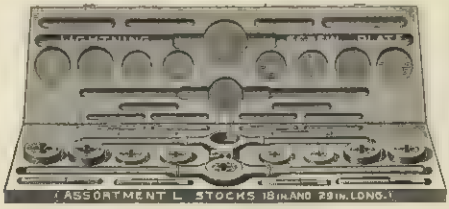


SET K, ¼ to ¾ inch. 7 sizes Two Stocks, one 18 inches long, and one 28 inches long; and ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾ inch Taps, Dies, and Collets.

Price complete $18.00
With Adjustable Tap Wrench 21.00

Diameter of Collets in this set, 7/16 in. and under, 2 7/16 in.
Diameter of Collets in this set, ½ in. and over, 2¾ in.
Adjustable Tap Wrench, size No 3 $3.00

Fig. 507.



SET L, ¼ to 1 inch. 9 sizes. Two Stocks, one 18 inches long, and one 29 inches long, and ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, ⅞, 1 inch Taps, Dies and Collets.

Price complete $27.50
With Adjustable Tap Wrench 33.85

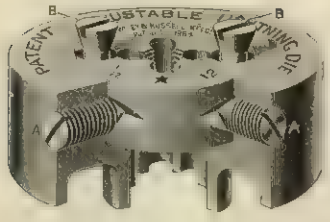
Diameter of Collets in this set, 1 7/16 inch and under, 2 3/16 inch.—Diameter of Collets in this set, ½ inch and over 2 2/4 inch.

Will send above sets 1/32 oversize, V thread, unless otherwise ordered.

Exact sizes V, U. S. Standard, Franklin Institute or Whitworth form of thread at regular prices when ordered.

SCREW PLATES.

Fig. 508



Die used in Screw Plates AA, B, C, D, K, and L.

The Taper-headed Screws regulate the cut. Another Binding Screw, not shown in cut, is placed opposite the one shown. In adjusting the Die, the binding screws are first slackened, and the size required fixed by moving the taper-headed screw in or out; after which the binding screws are set very tight the last thing.

Fig. 509

SET AA, $\frac{1}{16}$ to $\frac{1}{2}$ inch. Stock, 18 inches long. Six sizes, $\frac{1}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch Taps, Dies and Collets.

Price, complete $13.50
" " with adjustable Tap Wrenches. 15.85

Outside diameter of Collets in this set, $2\frac{1}{16}$ inches.

Holders for Dies in Set AA, to use in machine or bit brace, each, $1.50; adjustable Tap Wrench, size No. 2 . .$2.35

Fig. 510

SET B, $\frac{1}{4}$ to $\frac{3}{4}$ inch. Stock, 23 inches long Seven sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch.

Price, complete . $16.00
Diameter of Collets in this set, $2\frac{3}{4}$ inches.
Adjustable Tap Wrench, size No. 3. . . . . $3.00

Fig. 511

SET C, $\frac{3}{16}$ to 1 inch. Stock, 29 inches long. Seven sizes, $\frac{3}{16}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch.

Price, complete $22.00

Diameter of Collets in this set, $2\frac{3}{4}$ inches.
Adjustable Tap Wrench, size No. 4 . . . . . 4.00

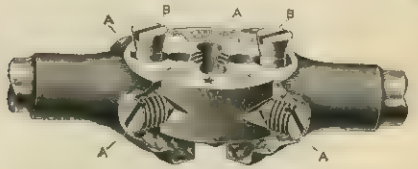
Will send above sets $\frac{1}{32}$ oversize, V thread, unless otherwise ordered.

Exact sizes V, U. S. Standard Franklin Institute or Whitworth form of thread, at regular prices, when ordered.

LIGHTNING. New Full Mounted Screw Plates.

(A STOCK TO EACH DIE)

Fig. 512



Mechanism of the Adjustable Die furnished with these Plates

In adjusting the dies for wear, or to make bolts and nuts fit tight or loose: First, slacken the outside screws AA; next, adjust the taper-headed screws BB to fix size; last, set the outside screws firmly.

Fig. 513

Instead of having a single stock to a set of several dies, each die is furnished with its own stock of suitable size and weight. The time and trouble in fitting and changing dies for each occasion is saved. Several sizes out of the same set may be in use at the same time.

SET AAA, $\frac{1}{4}$ to $\frac{1}{2}$ inch. A stock to each die. Five sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch.
Complete, in case, $11.00; with Adjustable Tap Wrench, $13 35

Fig. 514

SET BB, $\frac{1}{4}$ to $\frac{3}{4}$ inch. A stock to each die. Seven sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch.
Complete, in case, $16.00; with adjustable Tap Wrench, $19.00

SET C C, $\frac{3}{8}$ to 1 inch. A stock to each die. Seven sizes, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch.
Complete, in case, $22.00; with adjustable Tap Wrench, $26.00

SET C C C, $\frac{1}{4}$ to 1 inch. A stock to each die. Nine sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 inch.
Complete, in case, $25.50; with adjustable Tap Wrench, $31.85

Prices of Sizes separately, Stocks, Dies and Taps.

$1.95	2.00	2.20	2.65	3.05	3.50	3.80	4.30	4.80	5.40
$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$

$6.10 6.85 7.50
$\frac{7}{8}$ $\frac{15}{16}$ 1 inch.

Supplied $\frac{1}{32}$ oversize, V thread, unless otherwise ordered.

SCREW PLATES.

"GREEN RIVER."

Fig. 515.

Sectional view of Die taken apart.

Section of Die.

Die Ready for Clamping in Elastic Stock.

This Screw Plate **does the work at a single cut.** The Die is adjustable for wear, and to make Bolts and Nuts fit tightly or loosely, as may be desired.

The cut above shows a Die and Guide taken apart to show the mechanism. The cup-headed screw on the right holds the halves firmly together, acting as a hinge, while the size is regulated by the wedge shaped screw on the left, the whole being clamped in the elastic stock.

Fig. 516.

SET No. 1.—$\frac{3}{16}$ to $\frac{7}{16}$ inch. Stock 10 inches long. With both Stock and Brace Holder for Dies. 5 sizes, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$ inch Taps, Dies and Guides.

Complete, in case $8.75

Single Dies for this set, $1.00 Guides, 20 cents. Diameter of Dies in this set, $1\frac{5}{16}$ inch. Brace Holders (or Lathe Holders) to take dies in this set, each, 75 cents. Adjustable Tap Wrench, size No. 2, $2.35.

Fig. 517.

SET No. 1½.—$\frac{1}{4}$ to $\frac{3}{4}$ inch. Stock 22 inches long 7 sizes, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch Taps, Dies and Guides.

Complete, in case $13.00

Diameter of Dies in this set, $2\frac{1}{16}$ inch. Holders for Dies to use in Machine, or Bit Brace, each, $1.50. Adjustable Tap Wrench, size No. 3, $3.00

Fig. 518.

SET No. 2.—$\frac{1}{4}$ to $\frac{3}{4}$ inch Stock 23 inches long. 7 sizes. $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ inch Dies, Taps and Guides.

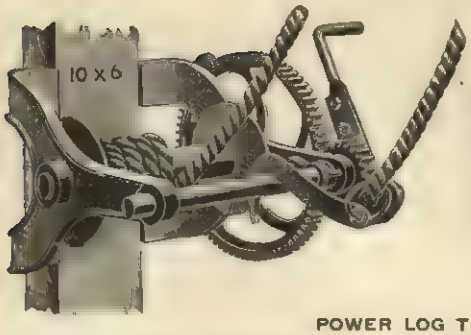
Complete, in case..... $15.25

Diameter of Dies in this set, $2\frac{3}{4}$ inch.
Adjustable Tap Wrench, size No. 3, $3.00.

Will send above sets $\frac{1}{32}$ oversize, V thread, unless otherwise ordered.

Exact sizes V, U. S. Standard, Franklin Institute, or Whitworth form of thread, at regular prices, when ordered.

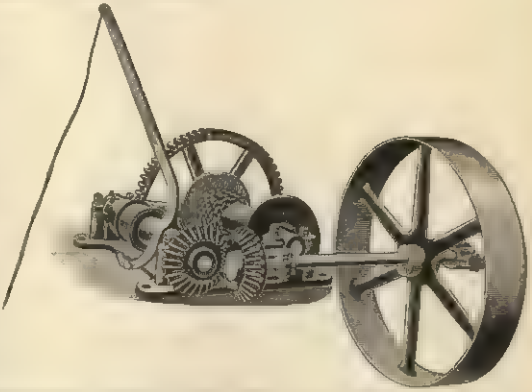
HAND LOG TURNER AND HOIST.



The spool is 3 inches in diameter, 16 inches between flanges, which are 10 inches diameter, and will hold 100 feet 1 inch rope, or 60 feet 1½ inch rope. The crank shaft is arranged to slip endways, unshipping the gear, when desired, and is held in place by a latch falling on either side of a collar on the shaft, shown in the engraving next the gear. The rope is prevented from "slacking" when holding a log or other weight, by a pawl, which engages in the cogs of the spool shaft gear. No frame work is required to support the machine, as it can be attached to a post 10 inches wide. Bolts for fastening and a log hook are furnished. Geared 4 to 1.

Price, Single Crank. $25 00
Price, Double Crank..... 30 00

POWER LOG TURNER.



Our Power Log Turner is placed above the carriage, and controlled by the sawyer pulling down on the hand rope attached to the lever shown in the cut. This operation engages the paper cone friction attached to the spur pinion connecting with gear on the rope spool.

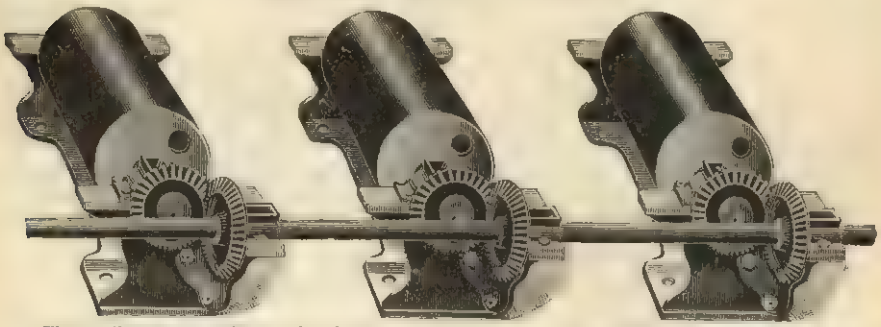
After use a steel spring disengages the friction, and the spool stops immediately. By continuing necessary pressure on the lever, the log can be held in desired position for dogging.

With splice rope or chain, and a snatch block, logs can be shifted on the skidway or in the yard.

The frame is iron, cast in one piece, which insures the boxes always being in line. All parts strong and durable. Journal boxes babbitted. The spool is 5 inches diameter, 19 inches between flanges, which are 12 inches in diameter, and will hold 100 feet 1½ inch rope, or 90 feet 1½ inch rope. The pulley is 30 inches diameter, with face for 6 inch belt. Without the miter gears, the spool is placed at right angles with the carriage track, and pulley is located on the friction shaft. When mitre gears are used, as shown in the cut, the spool is placed in line with the track.

A substantial log hook of improved pattern is furnished with each machine. Price, without miter gears, $75.00; with miter gear attachment, $85.00.

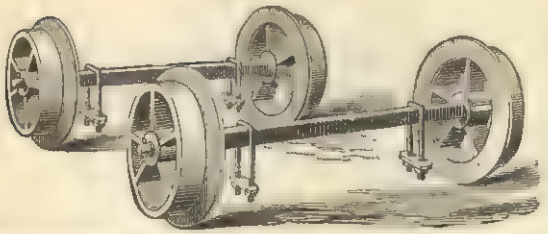
CAST IRON GEARED LIVE ROLLS.



These rolls are accurately turned and perfectly uniform in size. Wrought iron journals extend through their entire length. They are hung in a cast base with stands coming up at each end of roller, carrying the boxes in which the rolls revolve. There is also a cast bracket, with box, attached to the stand, in which the line shaft revolves. Write for prices.

LUMBER AND LOG TRUCKS.

Square Axle.

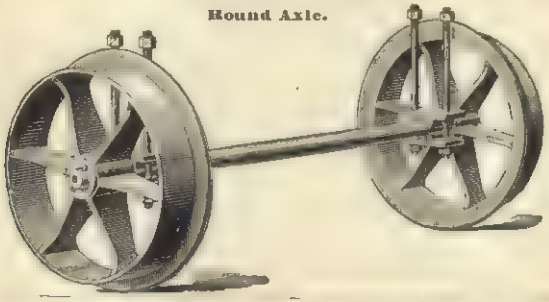


In ordering please designate both by number and size as listed. The prices below are for irons only, consisting of four wheels, two axles and four stirrups. Axles are all made for 30 inch gauge of track. Wider gauges will be furnished at slight additional price.

Trade number	1	2	3	4	5	6	7	8	9	10	11	12	13
Dia. wheels, inches	10	10	12	12	12	15	15	16	17	17	18	20	20
Flange	1¼	1	1	1½	1½	1	1¼	7/8	1½	1⅝	1½	1	1½
Face	3"	3¼	3½	3¾	4	2⅝	3	2¾	3¼	3½	3¾	4⅛	4
Axle	1½	1¾	1⅞	1⅞	1¾	1⅞	2	1⅞	2	2¼	2¼	2	2¼
Price	$12 00	12 50	13 50	18 00	24 00	16 00	25 00	17 00	31 00	32 50	41 00	24 00	35 00

LUMBER TRUCKS.

Round Axle.

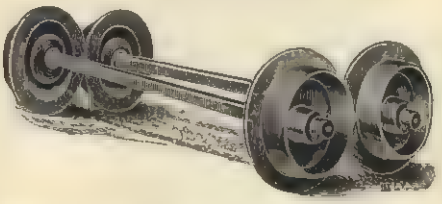


Diameter of Wheels, Inches	10	12	14	16	18	20	24
Diameter of Axle	1¼	1¼	1⅜	1⅜	1⅜	2	2
Price (4 wheels, 2 axles)	$28 00	30 00	35 00	41 00	47 00	53 00	59 00

All are 30-inch gauge unless otherwise specified.

LIGHT FLANGED WHEELS.

For Warehouses, Brickyards, etc.

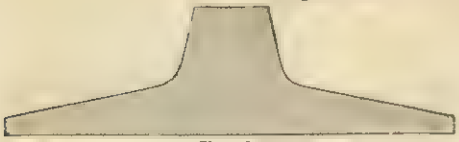


A set consists of four wheels and two axles. Axles 1¼-inch square, and from 24 to 36 inches in length.

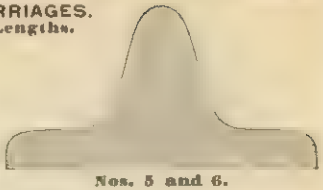
Price per set, with 6-inch Wheels ..... $ 7 50
Price per set, with 8-inch Wheels 9 00
Price per set, with 10-inch Wheels 10 50
Price per set, with 12-inch Wheels 12 00

TRACK IRONS FOR MILL CARRIAGES.

Wrought Steel—12 to 14 Ft. Lengths.



No. 4.

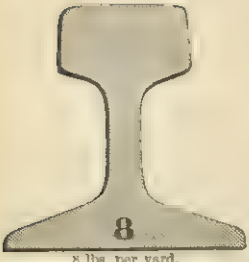


Nos. 5 and 6.

No. 4—3 x 1 in., Price per lineal foot, $0 40 | No. 5—2¼ x 1 in., Price per lineal foot, $0 25
No. 6—2 x 1 in., Price per lineal foot, $0 20

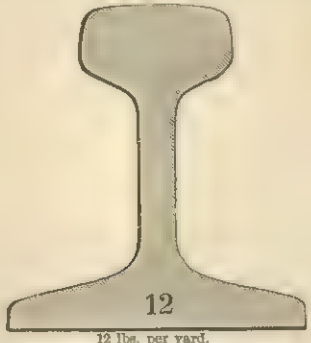
LIGHT TEE RAIL—Rolled Steel.

Prices on application.



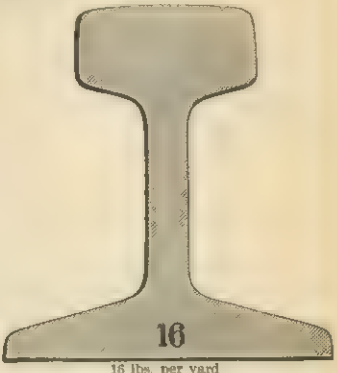
8 lbs. per yard.
14 68 Net Tons per mile

One ton will lay 375 feet of track and require about 40 joints, and about ¼ keg 2½ x ⅞ spikes



12 lbs. per yard.
21 12 Net Tons per mile

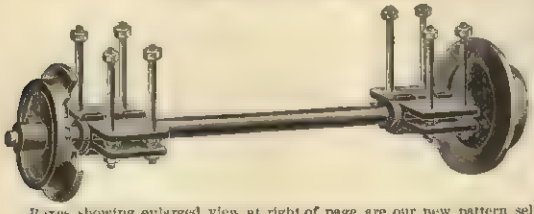
One ton will lay 250 feet of track, and require about 26 joints and about ⅓ keg 2½ x ⅞ spikes.

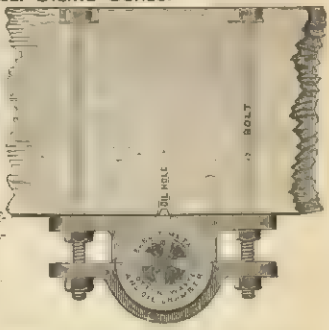


16 lbs. per yard
28.57 Net Tons per mile

One ton will lay 187 feet of track and require about 18 joints, and about ½ keg 3 x ¾ spikes

FLANGED ROLLERS AND AXLES.—Self-Oiling Boxes.

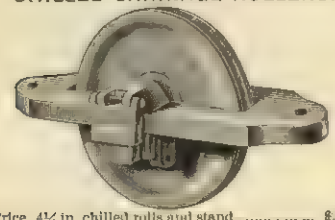




Boxes, showing enlarged view at right of page, are our new pattern self-oiling. Will run for a month with one lubricating. Axles of length and diameter suitable to carriage. Prices are for two wheels and one axle, with boxes.

Diameter of Roll	7 in.	8 in.	10 in	10 in
Diameter of Axle	1¾ "	1⅞ "	2 "	2¼ "
Price	$10 00	11 00	12 00	14 00

CHILLED CARRIAGE ROLLERS.



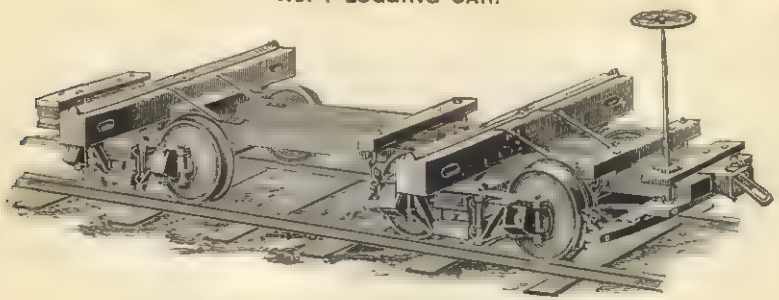
Price, 4½ in chilled rolls and stand $2 50
" 6 " " " " 3 25
" 8 " " " " 4 50

Only the 8-in rolls are provided with self-oiling boxes, as shown in cut

COMMON CARRIAGE ROLLERS.

Made in one size only, for our "Pony" and other small mills. Grooved Roller 4½ in. diameter to bottom of groove, Flat Roller 5½ in. diameter. Price, Grooved or Flat Roller, with chair, $1 00.

No. 1 LOGGING CAR.



No. 1, 20-inch heavy pattern chilled plate wheels, 175 lbs. each.
No. 2, 22-inch " " " " " 190 " "
No. 3. 24-inch " " " " " 250 or 300 lbs. each.

Axles 3 in., 3½ in. or 3¾ in. round. Journals 3 x 5 inches. Oil boxes and Journal brasses.

Truck frame of wrought iron 2½ x ⅝ in., 2½ x ⅝ in., 2½ x ½ in. Bolted together with ⅝ in. machine bolts.

4-coil ½ steel Bearing Springs, 30,000 lbs. capacity.

Regular R. R. Pattern Centre Plates and side bearings to insure perfect motion around curves. Side bearings hold Oil and Waste.

Draw Heads of cast iron cushioned on standard freight car draw spring.

1 Link and two Pins furnished with each car.

From center to center of truck axles, 38 or 40 inches. Center of draw head above track 18 inches.

Top of Bunk above track 28 inches.

TRUCK TIMBERS—Bottom timber 12 inches wide by 2 inches thick. Top timber 12 inches wide by 5 inches thick.

Bunks 8 by 10 inches by 8 feet long. 10 feet centers. Stringers or Reaches 6 in. by 8 in. car 20 feet over all. Can be made with center stringer to lengthen out or shorten up when so desired, but at extra cost.

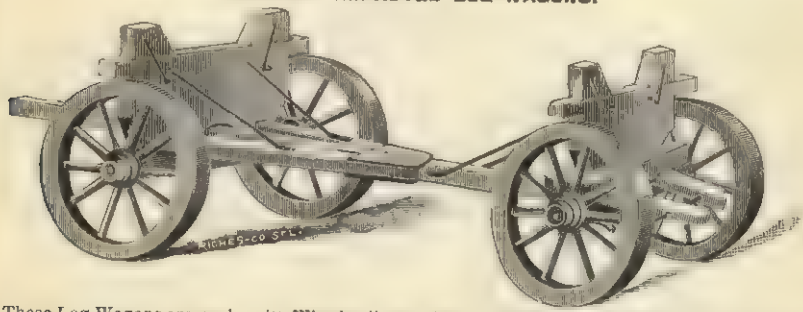
Brakes on one or both trucks with detachable brake staff when so ordered. Brakes are always extra.

Capacity of car 10 tons. Weight, 3-foot gauge, about 5,200 pounds. Made for any gauge of track required.

Cars made of best seasoned yellow pine or oak, as desired. Special modifications, including extra length Stringers, Timbers, Patent Bunk end stakes, Tool Boxes, etc., fitted as desired. Special Pattern Wheels for wooden rails, etc. Logging Trucks Sold without Bunks or Stringers, or just the irons complete fitted together, if so desired.

Price, No. 1 Car, $175.00; No. 2 Car, $200.00; No. 3 Car, $225.00.

NELSON'S IMPROVED LOG WAGONS.

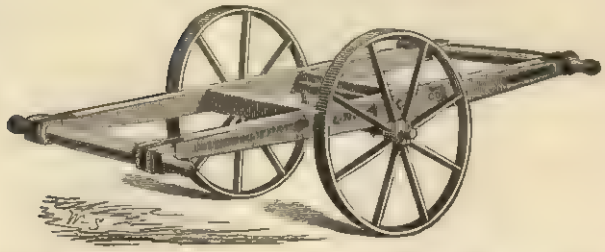


These Log Wagons are made with Wheels all one size; 42 inches high; Bolsters little higher than top of wheels and extending over wheels as shown in cut. Movable blocks to keep logs on. Ox wagons have drop tongues; horse wagons have stiff tongues.

Thimb. Sk'n.	Tire	For Oxen.	For Horses.	Thimb. Sk'n.	Tire.	For Oxen.	For Horses.
3¼ in.	2 x½ in.	$ 66 00	$ 69 00	4½ in.	3 x¼ in.	$ 98 00	$103 00
3½ "	2½x½ "	68 00	71 00	4½ "	4 x½ "	102 00	105 00
3½ "	3 x½ "	72 00	75 00	4⅝ "	4 x⅝ "	105 00	108 00
3¾ "	2½x½ "	72 00	75 00	5 "	4 x⅝ "	116 00	122 00
3¾ "	3 x½ "	75.00	78 00	5 "	5 x⅝ "	122 00	127 00
4 "	3 x⅝ "	90 00	95 00	5 "	6 x⅝ "	130 00	138 00
4 "	4 x½ "	93 00	97 00				

Iron axles furnished at slight advance if desired.

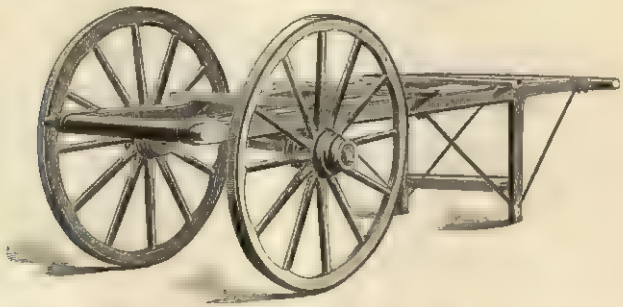
COMMON LUMBER BUGGIES.



Frame of selected ash, well bolted and braced. Cast iron wheels 28 inches in diameter. Axle 1¾ inch square.

Price, complete.....$15 00 | Irons only.....$10 00

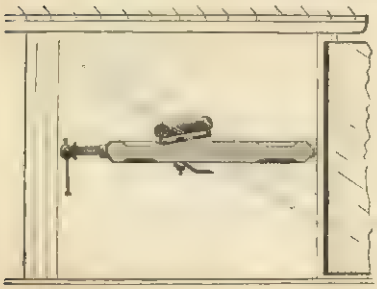
MICHIGAN LUMBER BUGGY.



This cart is built with Grade A Sarven wheels, 44 inches high, with ½ x 1¼ inch tires. It is substantial and easy running.

Price, with 2¾ x 8½" Thimble Skein	$25 00
" " 3 x 9" " "	27 50
" " 1¼ x 8½" Iron Axle	29 00
" " 1⅝ x 9" " "	32 00

LUMBER ROLLERS, FOR LOADING CARS.



They are made as shown in the cuts, for either the side or end opening of the car, and can be easily adjusted to fit different sized openings. Their cost is saved in a few shipments of lumber.

Side Rollers, each	$6 00
End " "	3 00

MALLEABLE SPLIT SOCKET PEAVIES.

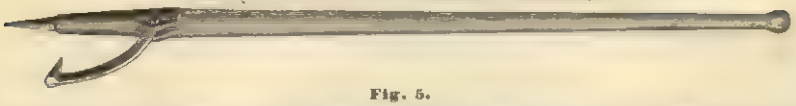


Fig. 5.

This is a light, strong and durable tool, more generally used than any other style of Peavy. The handle is made of hard maple, hickory or second growth white ash, from selected timber, thoroughly air seasoned. The hook is hand forged of HAMMERED CRUCIBLE CAST STEEL, with heavy upset head, either round or duck bill point. (We carry the duck bill pattern only, in stock.)

Hooks for 2¼ inch Peavies are made of ⅞ x 7/16 inch hammered crucible cast steel; for 2½ inch Peavies of 1 x 7/16 inch, and for 3 inch Peavies of 1 x ½ inch steel. The bolt is made of steel, with hexagon head and nut, square under the head to prevent turning. The socket is made of best malleable iron, with cast above hook, so that in case of shrinkage of handle, the socket can be drawn up by tightening the bolt. The Pick is ⅞ inch square, made of hammered crucible cast steel, and is driven when cold.

Prices below are with hard maple handles.

No. 260, 2½ in. x 4½, 5 or 6 ft. handles, weight per dozen 115 lbs., price per dozen, $22 25.
No. 261, 2¾ in. x 5, 5½ or 6 ft. " " " " 140 " " " " " 32 50.
No. 262, 3 in. x 5, 5½ or 6 ft. " " " " 165 " " " " " 38 00.

With hickory handles add $1.50 per dozen, all sizes.

REGULAR PATTERN CANT HOOK—WITH HAND FORGED CLASPS.

Fig. 19.

The cut shows our regular style Cant Hook, with hand forged clasp, and handle of hard maple, hickory or second growth white ash, selected and thoroughly air seasoned.

It is the tool most commonly known to the trade. The hook is of hammered crucible cast steel, with heavy upset head and duck bill point. Round or chisel point hooks furnished at about ten days' notice, if preferred. The bolt is steel, with hexagon head and nut, and square under head to prevent its turning. Toe ring is connected with clasp by a piece of half oval wrought iron. The clasp is of steel, and is hand forged. Hooks for 2¾ and 2¾ inch Cant Hooks are made of 1 x 7/16 inch steel, for 3 inch Cant Hooks of 1 x ½ inch steel.

Prices below are with hard maple handles.

No. 341, 2¾ in., weight per dozen 100 lbs.; price per dozen, $26 00.
No. 342, 2¾ in., " " " 120 " " " " " 28 00.
No. 343, 3 in., " " " 135 " " " " " 30 50.

Add for hickory handles $1 50 per dozen; for second growth white ash $4.00 per dozen.

LUMBERMEN'S STANDARD CANT HOOK—WITH MALLEABLE OPEN SOCKET.

Fig. 23.

This tool is made with clasp, toe ring and wear iron in one piece. It has great strength and durability, and can be very easily repaired in case of breakage of handle. We can furnish handle of hard maple, hickory or second growth white ash, but carry in stock usually only maple. The socket is made of the best malleable iron. The bolt is of steel, with hexagon head and nut, square under head to prevent turning. The hooks are made of 1 x 7/16 inch hammered crucible cast steel, hand forged, in same patterns as attached in same manner as described for Fig. 19. Duck bill pattern only carried in stock. Other patterns same price. Prices below are with hard maple handles. Add $1.50 per dozen for hickory handles.

No. 257, 2½ in. x 4½, 5 or 5½ ft. handles, weight per dozen 100 lbs.; price per dozen, $24 00.
No. 258, 2¾ in. x 4½, 5 or 5½ ft. " " " " 120 " " " " " 26 00.

NELSON'S "SPECIAL" CANT HOOK—WITH MALLEABLE CLIP CLASPS.

Fig. 25.

This is our latest pattern of Cant Hook for general use. It is very simple in construction, and in case of breakage the irons can be fitted to anything in the shape of a handle. It meets the demand.

Handle is either hard maple, hickory or second growth white ash, made from selected timber and thoroughly air seasoned.

Hook is hand forged, made of hammered crucible cast steel, with heavy upset head and either round or duck bill or chisel point. (Duck bill only in stock.)

The Clip Clasp is fastened by bolts passing through the handle, and through a clip, giving proper bearing on back of handle, which insures great strength and durability.

The Toe Ring is held in place by a half oval wear iron, turned up at lower end, under the nib of toe ring, and with the upper end passing under clip clasp and bolted through.

Bolt is same as in our highest priced hooks.

Prices are with hard maple handles. Add $1.50 per dozen for hickory handles.

No. 263, 2¾ in. x 4½, 5 or 5½ ft. handles, weight per dozen 100 lbs., price per dozen, $22 50.
No. 264, 2¾ in. x 4½, 5 or 5½ ft. " " " " 120 " " " " " 24 50.
No. 265, 3 in. x 5, 5½ or 6 ft. " " " " 135 " " " " " 27 00.

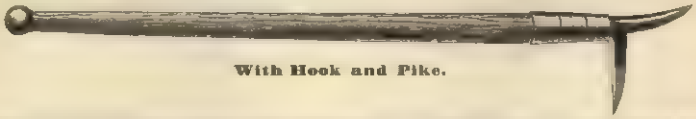
PIKE POLE.

Fig. 27. Pike Pole with Pike and Hook.

Poles are made of fine selected white ash. Pikes and Hooks are hand-forged from *one piece* of hammered crucible cast steel, tangs being ¾-inch square, guaranteed not to pull out. Ferrules of Norway iron and seamless.

Length, feet	12	14	16	18	20
Price, with Pike and Hook	$20 00	22 00	25 00	31 00	37 50
Price, with Pike only	17 50	19 50	23 00	28 00	35 00

LUMBERMEN'S PICKAROONS.

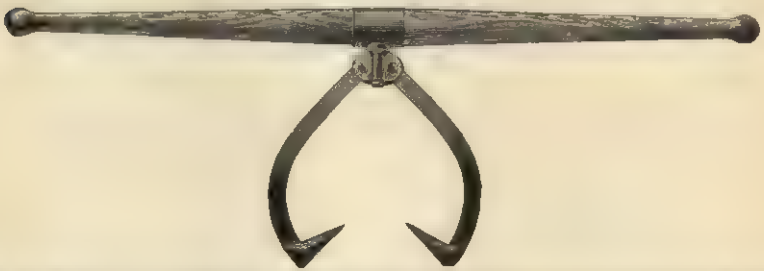


With Hook and Pike.

Pickaroons are used for handling telegraph poles, railroad ties, ice, lumber and refuse in mills. Handles, 36 inches long, 1¾ inch at bulge. Ferrules are wrought-iron, pikes of hammered crucible steel.

Price, with Hook and Pike, per dozen..... $20 00
Price, with Hook only, per dozen..... 18 00

TIMBER CARRIERS.



This tool is designed for use in bridge, boat, or house building, railroad construction, lumber yards, or wherever timbers are handled. It will grapple anything from 3 to 16 inches. The handle is 4 to 4½ feet long. The clasp is 2⅝-inch diameter, and made with swivel. The hooks are hammered crucible cast steel, round bill.

Price, with selected hard maple handles, per dozen..... $39 00
Price, with second growth white ash handles, per dozen..... 43 00

CANT HOOK HANDLES.

PRICES PER DOZEN.

Hard Maple Handles—Selected

Inches.	4 Feet.	4½ Feet.	5 Feet.	5½ Feet.	6 Feet.
2⅜	$3 75	3 90	4 20	4 60	5 10
2⅝	.....	4 50	4 80	5 20	5 70
3	..		5 40	5 80	6 30

Hickory Handles—Selected and Oiled.

Inches.	4 Feet.	4½ Feet.	5 Feet.	5½ Feet.	6 Feet.
2⅜	$4 50	4 60	5 00	5 50	6 00
2⅝	.....	5 20	5 60	6 10	6 60
3	.....	.....	6 20	6 70	7 20

Ordinary

Inches.	4 Feet.	4½ Feet.	5 Feet.	5½ Feet.	6 Feet.
2⅜	$3 35	3 50	3 80	4 20	4 70
2⅝	..	4 10	4 40	4 80	5 30
3	....		5 00	5 40	5 90

Second Growth White Ash Handles—Extra, Selected, Finished and Oiled

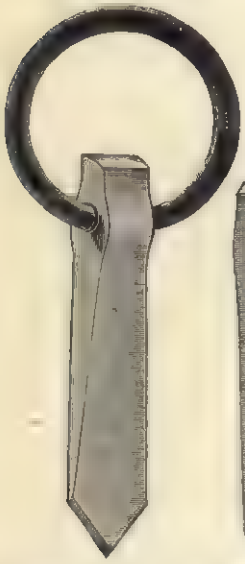
Inches.	4½ Feet.	5 Feet.	5½ Feet.	6 Feet.
2⅜	$8 00	8 50	9 00	10 00
2⅝	9 00	10 00	11 00	12 00
3	..	12 00	13 00	14 00

LUMBERMEN'S SKIDDING TONGS.

Our Skidding Tongs are all hand-forged, and made of the best hammered crucible cast steel.

Price, 1¼ x ⅝, to open 32 inches, $8 25; 1⅜ x ¾, to open 36 inches, $10 00; 1¾ x ¾ to open 42 inches, $12 00; 2 x ¾, to open 54 inches, $16 00.

RING DOGS.



One inch square iron, 7 inches long ring of ½ inch iron, 3 inches inside diameter.

Price, per hundred $14 00

HOOKS AND CLASPS FOR PEAVIES AND CANT HOOKS.

Furnished round point, duck bill, or chisel point.

Price, per dozen, with hand-forged clasps and steel bolts, ⅞ x ⅞ inch, $19 10; 1 x ⅞ inch, $21 10; 1 x 1 inch, $24 10.

Price, per dozen, with malleable iron clasps and steel bolts, ⅞ x ⅞ inch, $16 60; 1 x ⅞ inch, $18 60.

NORWAY CLASPS AND BOLTS.

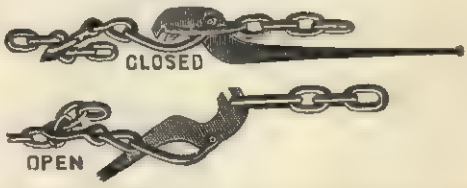
Hand Forged, per dozen.....$9 00
Malleable 6 00

CANT HOOK AND PEAVY BOLT.

Per hundred.....$6 50

SWAMP HOOK.

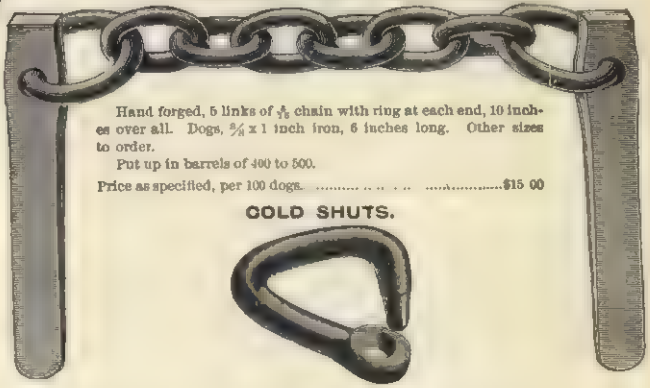
LOG BINDERS.



Can bind a load of logs in *three seconds*. Dispenses with poles entirely.

Price, per dozen.....$36 00

WROUGHT IRON CHAIN DOGS.



Hand forged, 5 links of ⅞ chain with ring at each end, 10 inches over all. Dogs, ⅝ x 1 inch iron, 6 inches long. Other sizes to order.

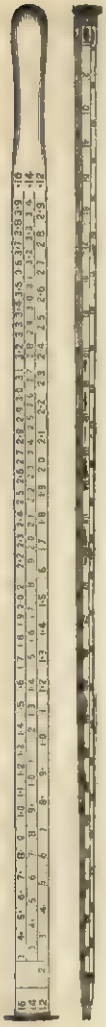
Put up in barrels of 400 to 500.

Price as specified, per 100 dogs. $15 00

COLD SHUTS.

Price Per Hundred.

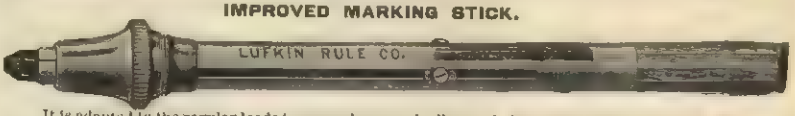
For ¼ inch chain, $4 50; for ⅜ inch chain, $4 85; for ½ inch chain, $5 10; for ⅝ inch chain, $6 00; for ¾ inch chain, $7 90.



HICKORY BOARD RULES.

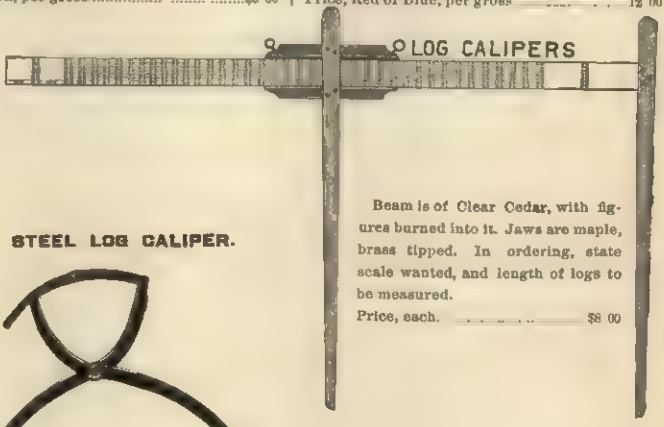
No.		Per dozen.
1	—2 Tier, 8½ feet, Inspectors' Board Rules, Extra Heavy, Brazed Heads (Steel Caps and Brass Shoulders)	$27 00
2	—3 " 3 " Board Rules, Extra Heavy, Brazed Heads	25 00
2½	—3 " 2½ " Sorting " Narrow (1 in. wide) Brazed Heads	24 00
3	—3 " 3 " Board Rules, Medium, Brazed Heads	23 00
4	—3 " 3 " " " Patent Socket Heads	21 00
5	—3 " 3 " " " " " With Brass Plates	25 00
13	—4 " 3 " Board and Log Rule combined, Brazed Heads	28 00
28	—Octagon 3 ft. Walking Cane Board Rule, Brass Head	12 00

IMPROVED MARKING STICK.



It is adapted to the regular leads in general use, and allows of the entire consumption of the lead, proving a great economizer. Nicely finished and nickel-plated.

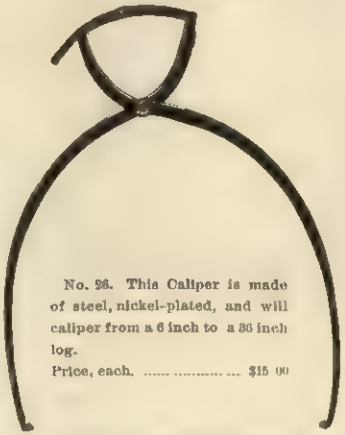
No. 40, Inspectors' Stick, 36 inches long, with hickory handle, each $1 50
No. 41, 12 inches maple handle, for marking lumber, merchandise, etc., for shipment, each 1 00
Price, Black, per gross ..... $9 00 | Price, Red or Blue, per gross 12 00



Beam is of Clear Cedar, with figurea burned into it. Jaws are maple, brass tipped. In ordering, state scale wanted, and length of logs to be measured.

Price, each. $8 00

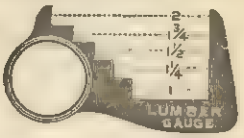
STEEL LOG CALIPER.



No. 26. This Caliper is made of steel, nickel-plated, and will caliper from a 6 inch to a 36 inch log.

Price, each. $15 00

POCKET LUMBER GAUGE.



No. 129, convenient for determining the thickness of lumber, price each $0 75

STEEL NAME STAMPS, AND LOG BRANDS.

NAME STAMPS.

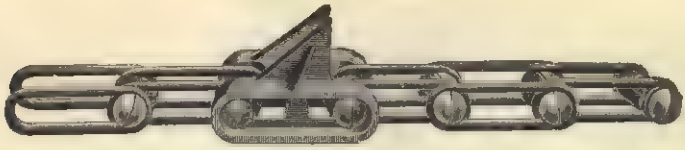
Size of Letter	⅜	3/16	¼	5-16	⅜
Price, per Letter	$ .20	.30	.40	.50	.60

Sizes smaller than ⅜ inch, same list price.

LOG BRANDS

⅝ inch letters, each	$1 00
1 " " "	1 25
1½ " " "	1 50
1½ " " "	1 75

HOWE BULL CHAIN.



The Howe Bull Chain is composed of accurately pitched wrought iron cable links held in place by malleable iron separable pins, all links being detachable.

The log teeth, which are inserted 5 feet apart, are made in one solid piece without bolts or rivets to work loose and cause trouble. It is the simplest and most durable chain made.

Working strain, 26,000 pounds. Price with log-tooth every 5 feet, $1.25 per foot.

Wheels for Howe Chain.

No. 1 or No. 2, 24 ins. diameter, 12 Teeth $16 00
" 4 Idler, 24 " " 12 " 10 00

No. 550 DETACHABLE SAWDUST CHAIN.

The cut herewith shows a new pattern of Detachable Link Chain, especially adapted to conveying sawdust, fine shavings, etc. It plows *through* and *under* the dust, and does not incline to ride over it, as other makes and patterns have. It is complete without attachments. Its breaking strain is 5,000 lbs.

Price, per foot, net 40c

Sprockets for No. 550 Chain.

17 inch diameter, 9 feet ..... $ 9 75 each
21 " " 11 " ..... 12 00 "

Width, 7 inches. Two links to the foot.

HAND-WELDED CLOSE LINK, COIL CHAIN.

Black or Bright, Any Desired Length.

Furnished with one regular and one grab hook, or two regular hooks, at ½c advance over coil price.

Following list not guaranteed. Owing to the frequent fluctuations in prices, orders will be filled at market prices on day of shipment.

SIZE.	Average Weight per 100 feet.	Proof-Tons.	Per Pound.
$\frac{3}{16}$ inches	50		$0 11
$\frac{1}{4}$ "	90	9 cwt.	8½
$\frac{5}{16}$ "	122	14 "	7½
$\frac{3}{8}$ "	160	2 ton.	7
$\frac{7}{16}$ "	200	2½ "	6½
$\frac{1}{2}$ "	250	4 "	6¼
$\frac{9}{16}$ "	320	4½ "	6¼
$\frac{5}{8}$ "	420	6 "	6
$\frac{3}{4}$ "	590	10 "	5½
$\frac{7}{8}$ "	790	13½ "	5 50
1 "	1000	18 "	5 50

Bicycles.

The Varsity for 1895.

Model B, 28 inch Wheels, Weight with Wood Rims, 20 pounds.

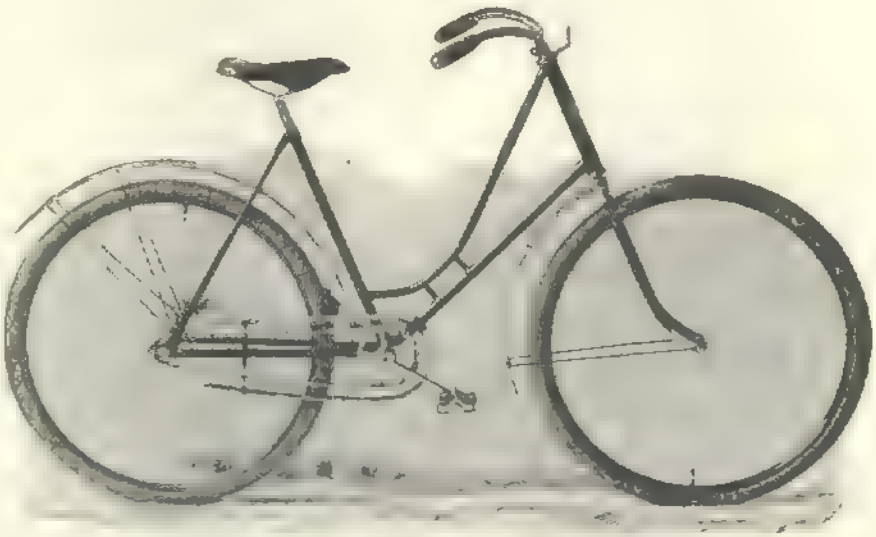
The Varsity is [illegible] Wheel [illegible] good material [illegible] skill can produce. It is light enough to satisfy the most fastidious and its strength [illegible] a great [illegible]. It is [illegible] for the road, [illegible] hands of an experienced rider will prove an ideal [illegible].

BRIEF DESCRIPTION. [illegible] Mannesmann tubing, 20 and 22 gauge, and large diameter. Crank Hanger and all other connections [illegible]. Head [illegible] long. Wheel Base 43 inches. Saddle [illegible] 32 and 35 inches. Frame strengthened at seat post by new [illegible] tubes are brazed [illegible] Adjustment secured by a Clamping Bolt. New Rear Fork Ends. New Chain Adjustment. Ridge pattern Tubular Front Fork Crown. Tubing reinforced. New Hunt Bar Clamp, which fastens to the fork without [illegible] the upper tube [illegible] important point. Three styles of Handle Bars. Cork Grips. 28 inch Wheels. Finest quality swaged [illegible] steel Spokes. New tubular Hubs, [illegible] simplest, lightest, strongest and best. Bearings cut from solid bar, tool steel, hardened [illegible] finished, all [illegible] movable. ¼ inch [illegible] to crank axle and rear wheel, ⅜ inch to front wheel and pedals. New hardened steel Cranks, 1½ inch throw. 2⅜ inch Tread. 3¼ inches between ball races on crank axle. Straight rear Tubes and straight Cranks. 5 inches from center of pedals to center of frame. ½ inch hardened and finished Chain, the finest made. Eight room Rear Sprocket. Geared to [illegible] inches regularly, or otherwise, as desired. New Hunt Saddle, weighing less than a pound. New Seat Post attaching directly to saddle, or T Seat Post if desired. New Tool Bag with best quality tools. Finished in finest black enamel. No brake, coasters or mud guards. M. & W. or G. & J. Tires. Steel or wood Rims.

DESCRIPTION.	EACH.
Varsity, Model A, Low Frame, Wood Rims, M. & W. Tires,	$100 00
Varsity, Model B, High Frame, Wood Rims, M. & W. Tires,	100 00
Varsity Racer, Weight 16 lbs., Wood Rims, M. & W. Tires,	125 00

$5.00 extra when fitted with G. & J. tires.

Bicycles.



The Vassar for 1895.

28 inch Wheels, Weight with Wood Rims, 28 lbs.

The Vassar is as fine a lady's wheel as it is possible to build. It combines extreme lightness, great strength, great rigidity, and is remarkably easy running. Has ample room for pedaling and dismounting, steering easily and gracefully to right or left position to its rider. Weight of the frame is the exact counterpart of the Variety. It can be stripped considerably lighter by the removal of mud and chain guards.

DESCRIPTION. Double Tube Frame [illegible] long, 20 and 22 gauge and large diameter the rear tubes bent [illegible] Drop Hanger and all other connections [illegible] steel. Head [illegible] Wheel Base 48½ inches long Saddle [illegible] inches. Frame stayed and [illegible] crop forging [illegible] without flattening Adjustable Cranks and Coasting Bolt. New Rear Forgings. New Adjustment. Tubular Front Fork Crown. Tubing reinforced. New Head Ball Cones, wheel passes through fork without increasing the upper tube at the point. New style Handle Bars Cork Grips. Steel Wheels. Finest quality swaged [illegible] Sockets. New Tubular Hubs are the most light, strongest and best. Bearing Cones and Balls cut from solid bars [illegible] and hardened easily removable. ¼ inch Bars to crank axle and rear wheel [illegible] to front wheel and head. New light Cranks [illegible] straight rear Tires. 16 inches from center to center of Pedals. ½ inch [illegible] and toothed Chain, [illegible] rear Sprocket, mounted on ball bearings. New light and comfortable saddle adjusting directly to Seat Post. Square Tool bag with finest quality tools. Finished in finest black enamel. M. & W. or G. & J. Tires, steel or wood Rims.

DESCRIPTION.	EACH.
Vassar, 28 inch Wheels, Wood Rims, M. & W. Tires,	$100 00

$5.00 extra if fitted with G. & J. tires.

Bicycles.

Detail of Varsity and Vassar.

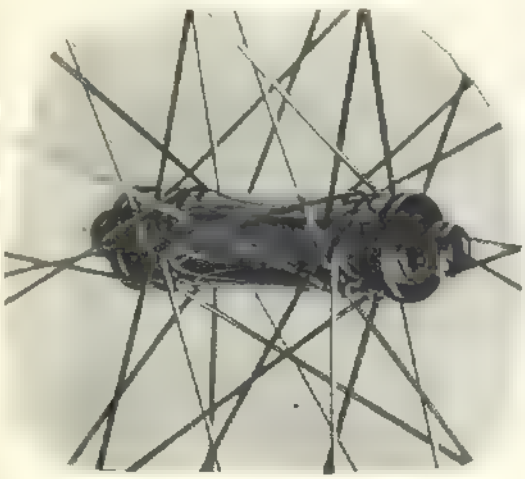
Style A. Style B. Style C. Style D

Style A. This style is used on the Vassar, Gipsy, Queen Mab and Fairy, and can be furnished on Varsity, Courier, Tornado and Blizzard.

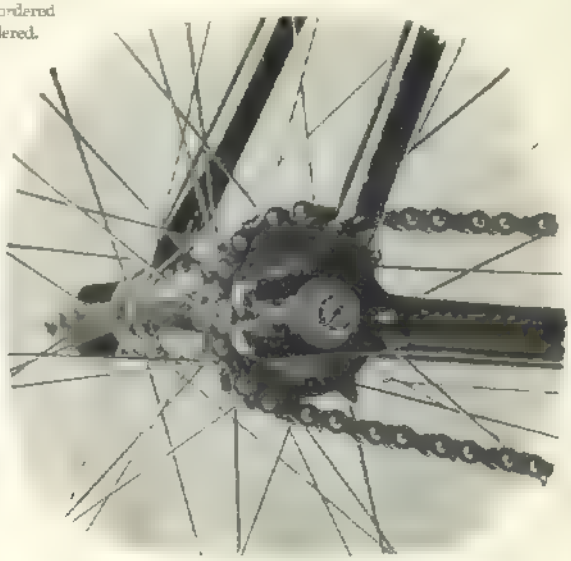
Style B. Furnished on Varsity, Courier, Tornado and Blizzard.

Style C. Furnished on Varsity, unless otherwise ordered.

Style D. Furnished on Varsity, only when so ordered.



Cut Showing Front Wheel Hub and Manner of Spoking of Varsity and Vassar.



Cut Showing Rear Hub Sprocket and Chain Adjustment of Varsity and Vassar.

The Hubs.

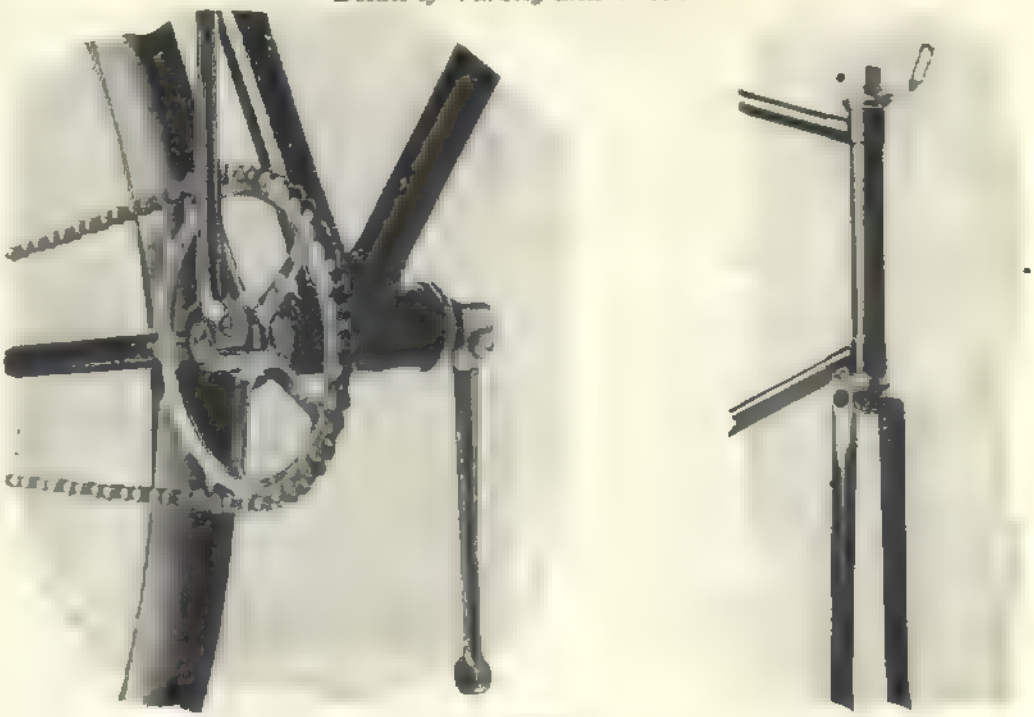
A new feature in our Varsity and Vassar is the Hubs, which have several important advantages, and are the lightest and strongest yet produced. Almost two pounds in weight is saved by their use, allowing additional weight in the frame. The Hub itself is a piece of hardened steel tubing of thin gauge, into which the turned steel cups are pressed in the ends, and are removable. A flange to the cone makes them dust-proof and adds to their appearance. A season's severe trial has convinced us of their great advantage. Light wheels are great factors in speed and easy steering—you get them in the Varsity and Vassar.

The Spokes.

We are using as fine Spokes as can be made. The ends are 15 gauge and the center swaged down to 17 gauge, breaking strain over 500 pounds. Nickel plated full length. The spokes hook in from the outside, and can be removed and replaced without removing the wheel from the frame.

Bicycles.

Detail of Varsity and Vassar.



The Frame.

To secure great strength and extreme lightness Mannesmann seamless spiral drawn steel tubing is a necessity, and is used on our Varsity and Vassar. By the use of tubes of larger diameter and thinner gauge great rigidity is secured, as well as decrease in weight. The connections are steel forgings, drilled to a thin gauge avoiding the [illegible] to the tubes without overheating and thereby weakening the tubing. A forged [illegible] of the barrel shape is used. A very neat steel rear fork end is used and is not weakened by the adjusting screw (which is secured without drilling the frame). The frame has been strengthened at the seat post by securing the rear tubes rigidly in a steel forging. Adjustment is obtained by a split in the forging and tightened by a bolt.

The Bearings.

The proof of a high grade wheel is in the bearings. It is here that material, knowledge and experience are telling factors in producing an easy running and durable mount. The bearings on our Varsity and Vassar are the finest quality, turned from a solid bar of special steel, hardened and finished. They are as hard as glass and perfectly true. They are easily removable and can be replaced if necessary.

The Chain.

To this most important portion of a bicycle we have paid particular attention. We make our own chain, and know it to be without equal in the market. Manufactured of the best steel, of uniform hardness, side links finished and polished, center link blued. The rivets are rounded on the heads and neither too tight nor too loose. Every chain tested before leaving the factory.

Bicycles.

The Courier for 1895.

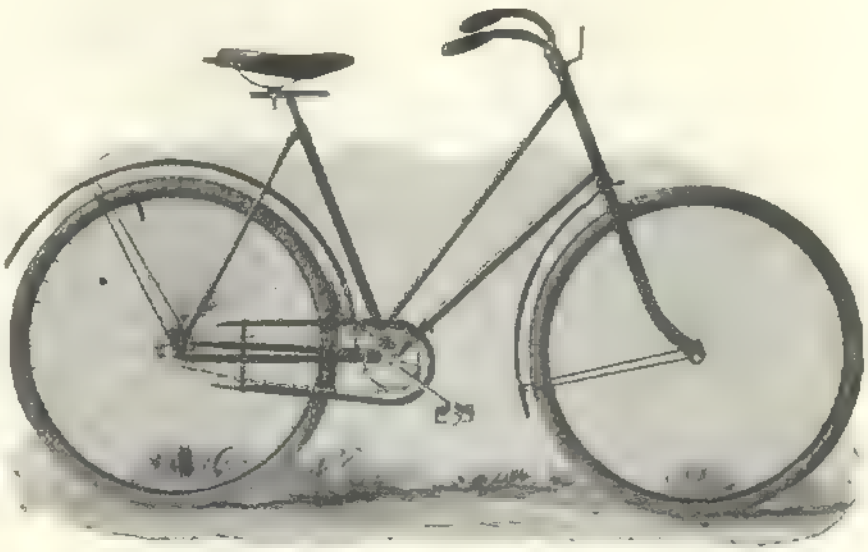
Model B, 28 inch Wheels, Weight with Wood Rims, 26 pounds.

Great as has been the improvement in the Varsity, the Courier has by no means been slighted. It has shared in the great improvement of the whole line, is a splendid high grade Bicycle, light enough and good enough for any one. It is second on the road to none but the Varsity, though of low frame and adapted to the use of ladies as well. The material and finish are the best and for strength, durability and general adaptability, this Wheel has no equal.

BRIEF DESCRIPTION. Hollow Forged Steel Backbone. Drop Forgings throughout. Tangent and 2" Steel, depth of Frame same as Varsity. Wood Rims 13 inches Front, Wheels 28 inches. Wood or Steel Rims. Piano Wire Spokes, each end full length. Brass Nipples. Newest Hubble Bearings adjusted or adjustable as desired. Cork Grips. Plain end Light Cranks 6 inch throw. ⅜ inch Pedals. Hollow Rubber Pedals if desired. Drop Forged front and rear Sprockets. Strong Light Low Pressure Pneumatic Tires, guaranteed waterproof. Ball Bearing throughout. Hardened steel Cups and Cones adjustable. ¼ inch Balls in front and rear wheels, 5/16 inch in front wheel and rear. Geared to 60 inches or other gearing if desired. Ladies' Special Frame of new design. Latest pattern Detachable Bag with each machine. Enameling and Lining. Equipped right through with M & W Tires and Saddles. Mud Guards and Brake not furnished unless ordered. Finished in the best manner.

DESCRIPTION	EACH.
Courier, Model A, Low Frame, 28 inch Wheels, Steel Rims, M. & W. Tires,	$75 00
Courier, Model B, High Frame, 28 inch Wheels, Steel Rims, M. & W. Tires,	75 00
Courier, Model A, 28 inch Wheels, Wood Rims, M. & W. Tires,	80 00
Courier, Model B, 28 inch Wheels, Wood Rims, M. & W. Tires,	80 00
Courier, Model A, 28 inch Wheels, G. & J. Tires,	85 00
Courier, Model B, 28 inch Wheels, G. & J. Tires,	85 00

Bicycles.



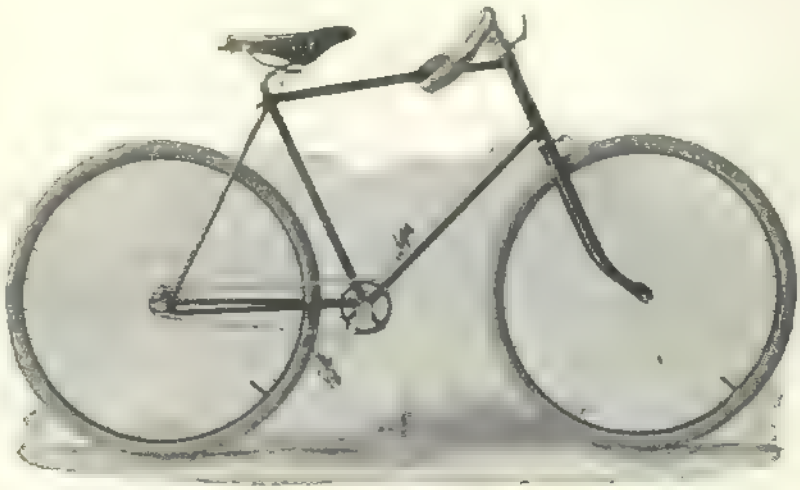
The Gipsy for 1895

28 inch Wheels. Weight with Wood Rims and M. & W. Tires, 28½ pounds.

The Gipsy has always been a popular Wheel and [illegible] It has been improved each year and has always been a leader, [illegible] This year [illegible] The Gipsy for 1895 will have [illegible] The Gipsy Lady will have [illegible] Ladies Bicycle a popular place.

BRIEF DESCRIPTION: Double straight tube Frame. Drop Forgings throughout. Wheel Base 43 inches. 10 inch Head Wheels 28 inches. Wood or steel Rims. Patent Spokes, nickeled. Light Brass Nipples. New style upturned Handle Bars with Cork Grips. Fine new light Crank Hanger. New Hunter Chain not touched. Drop Forged Steel Sprockets. New pattern High Power Adjustable Guard. Bearings throughout. Ball bearings in [illegible] ¾ inch Bearing cranks [illegible] inch tapered [illegible] Ball bearings in front wheel, [illegible] Ball bearings in rear wheel, [illegible] Ball bearings in pedals. [illegible] Ball bearings in steering head. [illegible] Ball bearings in seat post. [illegible] Ball bearings in seat pillar. [illegible] Ball bearings in seat clamp

Bicycles.



The Tornado for 1895.

28 inch Wheels, Weight with Wood Rims and M. & W. Tires, 24 pounds.

In describing this very popular young Bicycle we cannot refrain from saying that much abused word "Best." It surely has no equal, and this season it stands far head of its rivals. Having every essential of a high grade wheel, a handsome appearance, and the best of finish in materials and equal in every respect to the finest high grade wheels. It has been altered for the better in many particulars to keep pace with the times, and is up to date on every point.

BRIEF DESCRIPTION. Tube Diamond Frame of large tubing. Drop Forgings throughout. Wheel Base 45 inches. 8 inch Head. Wheels 28 inches. Steel or wood Rims. Fine steel Spokes, nickeled, full length. Brass Nipples. New style Handle Bars, dropped or inverted as desired. Cork Grips. Drop forged, round steel Cranks, 2¾ inch throw. ½ inch new Humber Chain, nicely finished. Steel front and rear Sprockets. Fine new, high steel Pedals, absolutely dustproof. Bearings turned from tool steel, hardened and tempered throughout. Geared to 80 inches. New Garland saddle. M. & W. or G. & J. Tires, as desired. Mud Guards and Brake are not included, unless ordered. Tool Bag attached to tubing.

DESCRIPTION	EACH
Tornado, 28 inch Wheels, Steel Rims, M. & W. Tires,	$50 00
Tornado, 28 inch Wheels, Wood Rims, M. & W. Tires,	50 00
Tornado, 28 inch Wheels, G. & J. Tires,	50 00

Bicycles.

The Queen Mab for 1895.

26 inch Wheels, Weight with Wood Rims and M. & W. Tires 28 pounds.

This beautiful little Bicycle has had a phenomenal sale, and every one sold has increased its popularity. Although intended originally as a Girls' wheel, it has been the popular size for ladies the past season, and its light weight and easy running qualities have made fast friends for it everywhere. With the improvements we have made for '95, it is easily the most desirable Ladies' Bicycle in the United States.

BRIEF DESCRIPTION. Double tube Frame, from large tubing of thin gauge. Drop Forgings throughout. Wheel Base 50½ inches. 8 inch Head. Wheels 26 inches. Wood or steel Rims. Fine steel wire Spokes, nickeled full length. Brass Nipples. New style Hanch Bars. Cork Grips. [illegible] Light steel Pedals absolutely dustproof. ⅛ inch new Humber Chain. Steel front and rear Sprockets. Bearings turned from tool steel, hardened and dustproof throughout. Geared to 60 inches. Garford Saddle of new design. New Tool Bag attaching to the tubing. Equipped regularly with M. & W. and with G. & J. Tires when desired. Wood Mud and Chain Guards. With Brake complete. Finished in three coats of black enamel.

DESCRIPTION.	EACH.
Queen Mab, 26 inch Wheels, Steel Rims, M. & W. Tires,	$50 00
Queen Mab, 26 inch Wheels, Wood Rims, M. & W. Tires,	55 00
Queen Mab, 26 inch Wheels, Wood Rims, G. & J. Tires,	60 00

Bicycles.

The Blizzard for 1895.

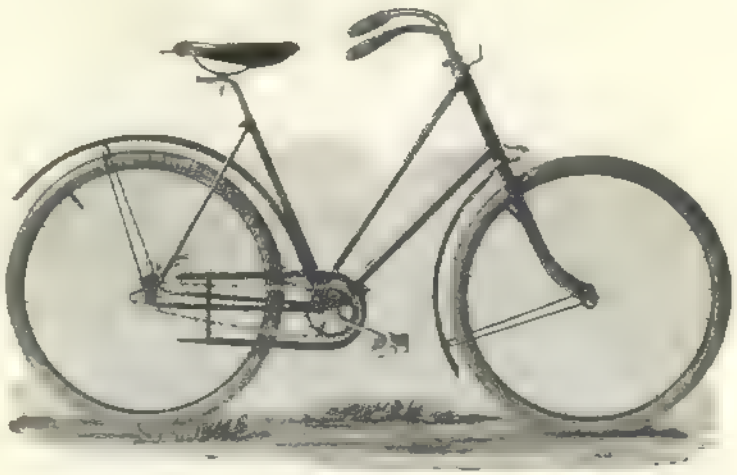
24 inch Wheels. Weight with Wood Rims and M. & W. Tires 23 pounds.

The Blizzard is a fac simile of the Tornado in every thing except size. It is made in the same workmanlike manner, has the same fine finish, and includes every improvement. It has been greatly improved in every detail for 1895, and we present it as the finest Boys' Wheel built.

BRIEF DESCRIPTION. Tube Handle Frame of large tubing. Drop Forgings throughout. Wheel Base 58 inches. Stitch Heel Wheels. Hollow Steel or wood Rims. Fine steel Spokes, nickel finish. Brass Nipples. New style Handle Bar, dropped or upturned, as desired. Cork Grips. Drop forged steel Cranks, ½ inch throw. New Hubber hub nicely finished. Fine new high grade Pedals, absolutely dustproof. Frame 18 or 20 inches. New crawford Saddle. M. & W. or G. & J. Tires. Mud Guards and Brake not included, unless ordered. Tool Bag attaches to tubing.

DESCRIPTION	PRICE
Blizzard, 24 inch Wheels, Steel Rims, M. & W. Tires,	$40 00
Blizzard, 24 inch Wheels, Wood Rims, M. & W. Tires,	45 00
Blizzard, 24 inch Wheels, G. & J. Tires,	50 00

Bicycles.



The Fairy for 1895.

24 inch Wheels, Weight with Wood Rims and M. & W. Tires, 25 pounds.

The popularity of our Queen Mab induced us last season to make a smaller size for girls. It has proved to be a great favorite and we recommend it to ladies who cannot ride a larger size. It is identical in every detail to the Queen Mab except in size. It is in all respects high grade, and a finer or easier running Girl's Bicycle is not built

BRIEF DESCRIPTION. Double Tube Frame. Drop Forgings throughout. Wheel Base 38 inches. 8 inch Head. Wheels 24 inches. Wood or steel Rims. Fine steel wire Spokes, nickeled full length. Brass Nipples. New style Handle Bars. Cork Grips. Round drop forged steel Cranks, 6½ inch throw. Light steel Pedals, absolutely dustproof. ½ inch new Hubner Chain. Bearings turned from tool steel, hardened and dustproof throughout. Grooved to 6 inches. Barford Saddle of new design. New Tool Bag attaching to tubing. Equipped regularly with M. & W. Tires and with G. & J. Tires when desired. Steel Mud and Chain Guards. With Brake, complete. Finished in the best manner. Black enamel.

DESCRIPTION.	EACH.
Fairy, 24 inch Wheels, Steel Rims, M. & W. Tires,	$40 00
Fairy, 24 inch Wheels, Wood Rims, M. & W. Tires,	45 00
Fairy, 24 inch Wheels, G. & J. Tires,	50 00

M. & W. Pneumatic Tires.

Standard Valve and Stem

Section of Tire and Valve

Wood Rim Valve and Stem

This Tire needs no introduction to wheelmen, as it is well and favorably known throughout the country. Constructed of the finest Para rubber, it is very light, yet strong, and will stand more than ordinary wear. It is the most elastic tire made, and will not heat or break down under the hardest riding. It is very strong and will stand hard usage. The material used being the finest and purest that can be obtained, it is free from the poisonous matter found in many other tires, which causes blood poisoning when punctured by nails or others.

The tire is constructed entirely by hand. It is calendered in three plies, preventing air bubbles or weak spots. Seams and ends are reinforced, and leakage is well nigh impossible. It is vulcanized and the finish of the inside is enamel. A round tube would have to be very thick to withstand the friction, for the friction would prevent drawing it in shape. Each end is overlapped and the tube is made a foot longer than the cover, so that the ends lap over each other. The end lies directly in front of the valve hole in the rim.

The Valve is patented. The cut and hardly needs explaining. It is simple, deflatable and air tight. To deflate, loosen the screw a little and press down.

A book of instructions for repairing accompanies each set of tires.

28 inch Weighs 4 pounds Per Pair
For 1¼ inch Rims

28 inch Weighs 4 pounds Per Pair
For 1¼ inch Rims

28 inch Weighs 4 pounds Per Pair
For 1¼ inch Rims

28 inch Weighs 4 pounds Per Pair
For 1¼ inch Rims

28 inch Weighs 3 pounds Per Pair
For 1¼ inch Rims

Average weight 3 pounds Per Pair
For 1¼ inch Rims

STYLE			24 INCH.	26 INCH.	28 INCH.	30 INCH
A	With Pump,	Per Pair,		$12 00	$12 00	$12 00
B2	With Pump,	Per Pair,		12 00	12 00	12 00
D	With Pump,	Per Pair,		12 00	12 00	12 00
N	With Pump,	Per Pair,		12 00	12 00	12 00
S2	With Pump,	Per Pair,		12 00	12 00	12 00
C	With Pump,	Per Pair,	$10 00	10 00		

Riding pressure will slightly increase the sectional size.

AJAX CYCLES

We control the line known as Ajax Cycles, illustrated on pages 1250 to 1259, inclusive, and shall maintain the reputation which they have earned as bicycles of the highest grade.

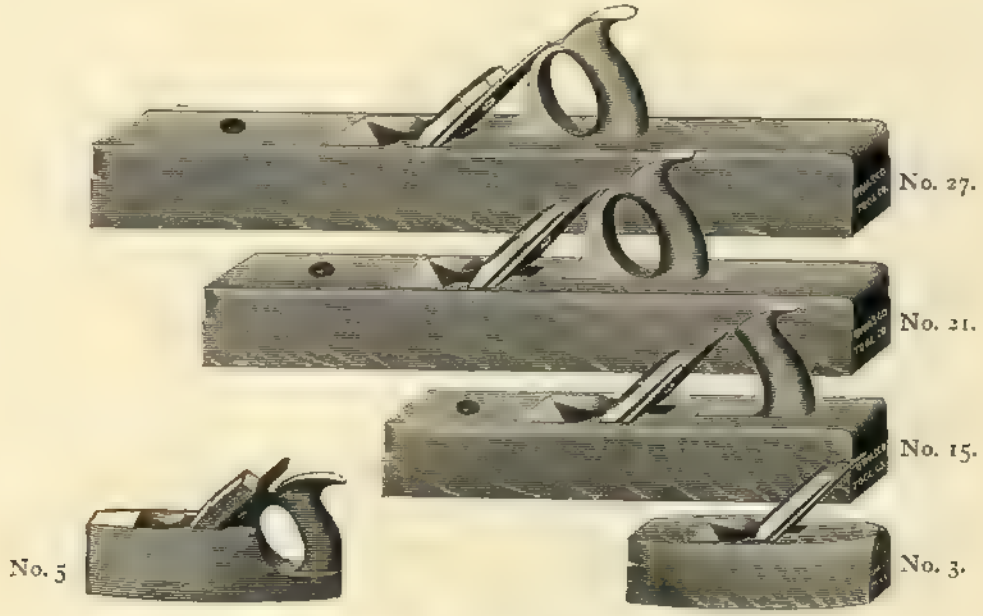
We shall issue a separate catalogue, yearly, of Bicycles and Sundries, which will include all changes to date.

TRICYCLES

--AND--

SUNDRIES

Wood Bench Planes.



Ohio Tool Company's Bench Planes.

No.	Kind.	Each		Description
		List.	Net.	
3	Smooth,	$ .90		2 to 2¼ inch Double Irons, Polished Ebony Start.
5	Smooth,	1.75		Solid Handle, Double Irons, Polished Ebony Start.
15	Jack,	1.00		2 to 2¼ inch Double Irons, Polished Ebony Start.
21	Fore,	1.40		22 inch, 2⅜ to 2⅝ Double Irons, Polished Ebony Start.
27	Jointer,	1.50		26 inch, 2½ to 2¾ Double Irons, Polished Ebony Start.

Ogontz, or Scioto Bench Planes.

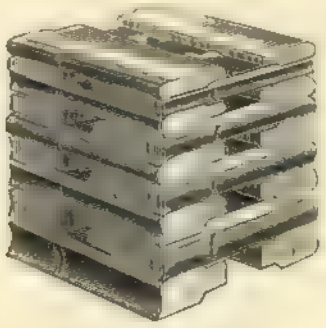
03	Smooth,	.90		2 to 2¼ inch Double Irons, Polished Start.
015	Jack,	1.00		2 to 2¼ inch Double Irons, Polished Start.
021	Fore,	1.40		22 inch, 2⅜ to 2⅝ Double Irons, Polished Start.
027	Jointer,	1.50		26 inch, 2½ to 2¾ Double Irons, Polished Start.

Ohio Tool Company's Planes.

29	Box Makers,	1.35		Razee Jack Shape, Single Iron.
30	Tooth Plane,	1.00		Smooth Shape, 2 inch Cast Steel Iron.

Moulding Planes.

Hollows and Rounds.



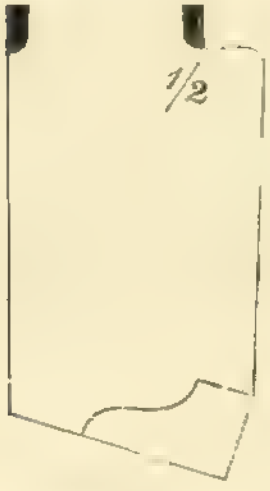
Set of Nine Pairs.

Hollows and Rounds are only sold in Pairs and Sets.

Nos.,	1	2	3	4	5	6	7	8	9	10	11
Inches,	¼	⅜	½	⅝	¾	⅞	1	1¼	1½	1¾	2
Per Pair,	$0.75	.75	.75	.75	.75	.75	.90	.90	.90	1.10	1.10

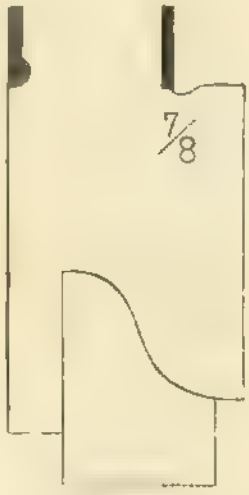
Sets of 9 Pairs, Nos. 2 to 18, per set. $7.20

Ogee Planes.



No. 82.

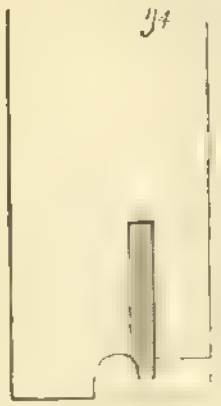
No. 74



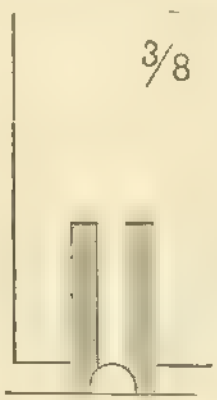
No. 82½.

Sandusky Tool Co's	Ohio Tool Co's	Each		Description.
		List.	Net	
82	62½	$ .75		Roman, Reverse Ogee, ⅜, ½ and ⅝ inch.
82	62½	.85		Roman, Reverse Ogee, ¾, ⅞ and 1 inch.
82	62½	1.00		Roman, Reverse Ogee, 1¼ inch.
74	59	.65		Ogee, ⅜, ½, ⅝, ¾, ⅞ and 1 inch.
74	59	.85		Ogee, 1¼ and 1½ inch.
82½	62¼	.80		Roman, Reverse Ogee, with Fence, ½ and ⅝ inch.
82½	62¼	.90		Roman, Reverse Ogee, with Fence, ¾, ⅞ and 1 inch.

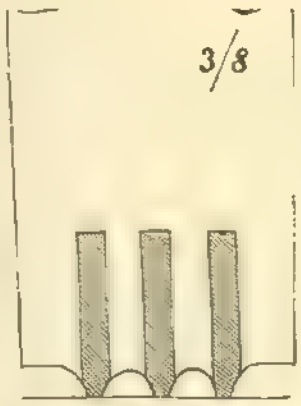
Moulding Planes.



No. 47.



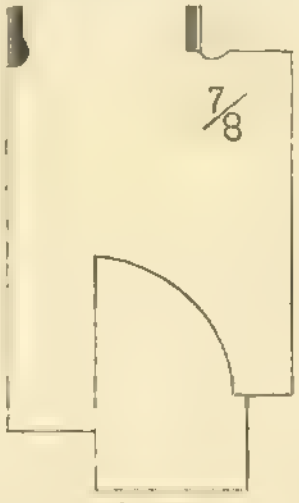
No. 51.



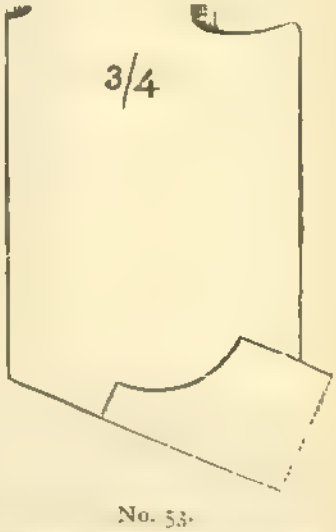
No. 152.

Sandusky Tool Co's	Ohio Tool Co's	Each List	Each Net	Description.
47	37	$ .50		Bead, Boxed, 1/8, 3/16, 1/4, 5/16, 3/8 and 1/2 inch.
47	37	.55		Bead, Boxed, 5/8 and 3/4 inch.
47	37	.70		Bead, Boxed, 7/8 and 1 inch.
51	41	.60		Center Bead, Boxed, 1/8 3/16, 1/4, 5/16, 3/8 and 1/2 inch.
51	41	.65		Center Bead, Boxed, 5/8 and 3/4 inch.
152	122	1.80		Reeding Plane, Boxed, 3/16, 1/4, 5/16 and 3/8 inch, 3 Beads.

No. 54.



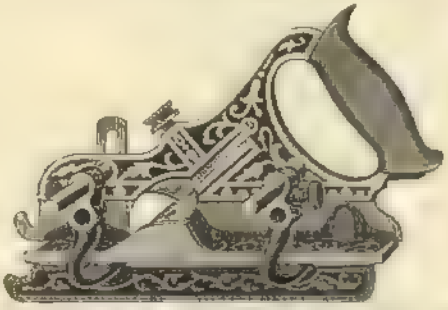
No. 54 1/2.



No. 53.

54	43½	.50		Scotia or Quarter Round, ½ and 5/8 inch.
54	43½	.65		Scotia or Quarter Round, ¾, 7/8, 1 and 1¼ inch.
53	43	.50		Cove Plane, ½ and ¾ inch.
53	43	.65		Cove Plane, 7/8 and 1 inch.
54¾	43⅛	.80		Casing Quarter Round, with Fence, ½ and ¾ inch.
54¾	43⅛	.90		Casing Quarter Round, with Fence, 7/8 and 1 inch.

Miller's Patent Combined Plow, Filletster and Matching Machine.



This Tool combines in the compass of an ordinary Carpenter's Plow, a reliable Filletster and a perfect Matching Plane. The entire assortment of tools occupies a smaller space or is more portable than an ordinary Carpenter's Plow.

With each Tool eight forged Plow Bits (⅛, 3-16, ¼, 5-16, ⅜, 7-16, ½ and ⅝ inch), a Filletster Cutter and a Slitting Blade are furnished, also a Tonguing Tool (⅜ inch), and by use of the latter, with the ⅜ Plow Bit for grooving, a perfect Matching Plane is made.

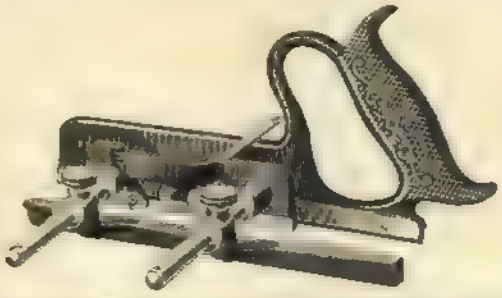
Combined Plow, Filletster and Matching Plane.

No.		Each
41.	Iron Stock and Fence,	$9.00
42.	Gun Metal Stock and Fence,	12.00

Combined Plow and Matching Plane without Filletster.

43.	Iron Stock and Fence,	7.00
44.	Gun Metal Stock and Fence,	10.00

Patent Adjustable Beading Plane.



For beads or ordinary beading or for extra beading cannot be surpassed. By adjustment of the Fence certain beading can be done quite as well as the regular beading Tools for working across the grain the spurs need not be used.

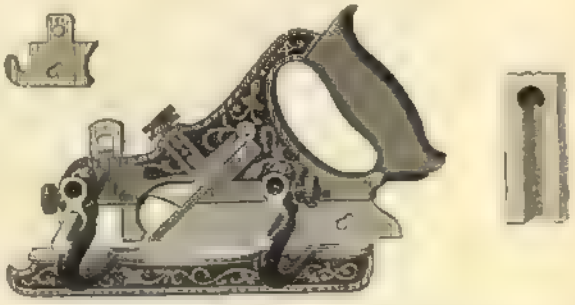
50.	Iron Stock and Fence (including Bits ⅜, 3-16, ¼, 5-16, ⅜, 7-16 and ½ inch),	4.00

Patent Duplex Rabbet Plane and Filletster.

The Square Cutter over this Plane can be seen at a glance at the illustration, and before the cover of the Plane is secured and a Handled Cutter Plane Blade with two cutters, set at the top of the stock, a Bull Nose Rabbet Plane. The Fence can be set at any angle with the stock, and the Cutters can be adjusted to project more or less, as required, for working up against perpendicular surfaces. The Fence is also used as a Depth Gauge for working with the grain. The Square Cutter can be used on the right or left hand Plane, as desired, while the Handled Cutter is a superior right or left hand Plane, as the case may be.

78.	Iron Stock and Fence, 8½ inch Length 1½ inch Cutter,	1.50

Patent Bull-Nose Plow, Filletster and Matching Plane.



Two other Tonguing Tools go with this Tool. The form shown above is that of a Bull Nose Plow and the Cutter can easily be set up to any depth, and is of any larger size—as 1 inch, 1¼ inch, etc.

With the other Tool it takes the ordinary form of a Plow, and is adjustable to any regular size.

With each Tool eight Plow Bits (⅛, 3-16, ¼, 5-16, ⅜, 7-16, ½ and ⅝ inch), a Filletster Cutter and a Slitting Blade are furnished; also a Tonguing Tool (⅜ inch).

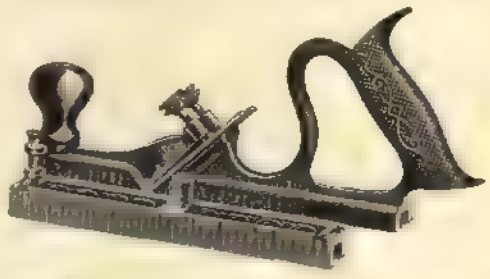
Bull-Nose Plow, Filletster and Matching Plane.

No.		Each
141.	Iron Stock and Fence,	$7.00

Bull Nose Plow and Matching Plane—without Filletster.

143.	Iron Stock and Fence,	5.00

Tonguing and Grooving Plane.



This Plane has two separate Cutters, a suitable distance apart. When the guide or fence is set as shown above, both Cutters work and a tongue can be made.

The Fence is hung on a pivot, and can be swung around, end for end. This movement covers one of the Cutters, and also furnishes a guide for grooving an exact match for the tongue.

Prices, include Tonguing and Grooving Tools.

48.	Iron Stock and Fence, for ¼ to 1¼ in. Boards,	2.50
49.	Iron Stock and Fence, for ⅜ to ¾ in. Boards,	2.50

Improved Rabbet Plane.

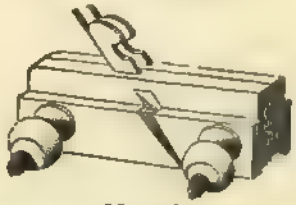
This Plane will be perfectly flat on either side and can be used with right or left hand equally well, while planing into corners or up against perpendicular surfaces.

190.	Iron Stock, 8 inches in Length, 1¾ inch wide, with Spur,	1.15
191.	Iron Stock, 8 inches in Length, 1¼ inch wide, with Spur,	1.15
192.	Iron Stock, 8 inches in Length, 1 inch wide, with Spur,	1.15

Moulding Planes.

Sash Planes.

Ovalo.


No. 166.

Bevel.

Sandusky Tool Co's.	Ohio Tool Co's.	Each List.	Each Net	Description
166	129	$ 2 00		Sash, Screws Arms, Boxed, Bevel or Ovalo Moulding.

Nosing Planes.

No. 113.

113	91	1.10		Nosing for Steps, Two Irons, 7/8, 1, 1 1/8 and 1 1/4 inch.
113	91	1.20		Nosing for Steps, Two Irons, 1 3/8 and 1 1/2 inch
113	91	1.50		Nosing for Steps, Two Irons, 1 3/4 and 2 inch.

Dado Planes

No. 62.

60	47	1.10		Dado with Iron Stop, 1/2, 5/8, 3/4, 7/8 and 1 inch.
62	48	1.50		Dado with Screw Stop, 1/2, 5/8, 3/4, 7/8 and 1 inch.

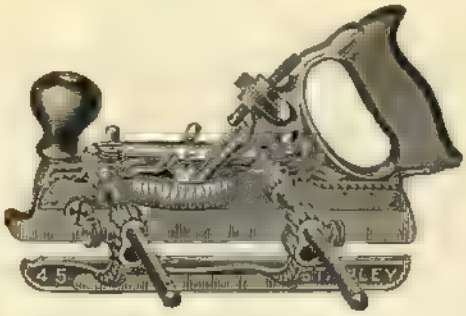
Rabbet Planes.

No. 146.

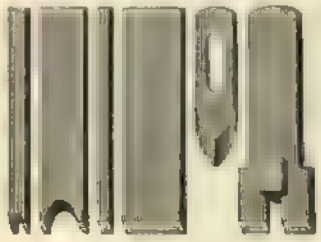
146	116	.60		Skew Rabbet, 1/2, 5/8, 3/4, 7/8 and 1 inch.
146	116	.65		Skew Rabbet, 1 1/4 inch.
146	116	.70		Skew Rabbet, 1 1/2 inch.
146	116	.80		Skew Rabbet, 1 3/4 inch.
146	116	.90		Skew Rabbet, 2 inch.
149	119	1.90		Jack Rabbets, Handled, Two Cutters, 1 1/2 and 2 inch.

Stanley's Patent Planes.

Patent Adjustable Beading, Rabbet and Slitting Plane.



[Samples of Tools embraced in the set of Eighteen Tools sold with Plane No. 45.]



This Plane embraces in a compact and practical form. Beading and Center Beading Plane, Rabbet and Filletster, Dado, Plow; Matching Plane; and a superior Slitting Plane.

In each of its several forms this Plane will do perfect work, even in the hands of an ordinary mechanic—its simplicity of construction and adaptation of parts (as described in the directions which accompany each Tool, being easily understood.

☞ Each Plane is accompanied by seven Beading Tools (⅛, 5/16, ¼, 5/16, ⅜, ½ and ¼ inch), nine Plow and Dado Bits (⅛, 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, and ¾ inch), a Slitting Tool and a Tonguing Tool.

No.		Each
45.	Iron Stock and Fence, including Beading Tools, Bits, Slitting Tool, etc., . .	$8 00

Additional Tools which can be used with No. 45 Plane.

	Sizes, (In ordering, always state size and number of Beads wanted.)	2	3	4	5 Beads.
Beading Tools, .	⅛ inch, . . .	$ .20	.30	.40	.50
	3/16 inch, . . .	.20	.30	.40	.50
	¼ inch, . . .	.20	.30	.40	.50

	Nos., . . .	6	8	10	12
Hollows and Rounds.	Cutter, . . .	½	5/8	¾	1 inch.
	Circle, . .	¾	1	1¼	1½ inch.
	Per Pair, . .	$1.40	1.40	1.40	1.40

Nosing Tool, for Plane No. 45.

[Attach Same as Hollows and Rounds.

3. Nosing Tool, 1¼ inch Cutter, ... 1.00

No. 46.

No. 47.

46. Dado, Filletster, Plow, Slitting and Tonguing Tool, ... 7.00

The tool is accompanied by eight Plow and Dado Bits (3/16, ¼, 5/16, ⅜, ½, 5/8, ¾ and 1¼ inch), a Filletster Cutter, a Slitting Tool, and a Tonguing Tool. All except the Slitting Blade are secured in the main stock on a slew

47. Adjustable Dado, including Bits (3/8, ½, 5/8, 7/8 and 1¼ inch), and Slitting Tool. . 4.00

Stanley Adjustable Planes.

These Planes are Adjusted by the use of a Compound Lever, and are equally well adapted to coarse or fine work. The Plane Irons are made of best English Cast Steel.

Wood Planes.

No. 122.

No. 135.

No.		Length.	Cutter.	Each.	No.		Length.	Cutter.	Each
122.	Smooth Plane,	8 in.	1¾ in.	$1.50	135.	Han'd Smooth,	10 in.	2⅛ in.	$2.00

No. 129.

127.	Jack Plane,	15 in.	2⅛ in.	2.00	132.	Jointer Plane,	26 in.	2⅝ in.	2.50
129.	Fore Plane,	20 in.	2⅜ in.	2.25					

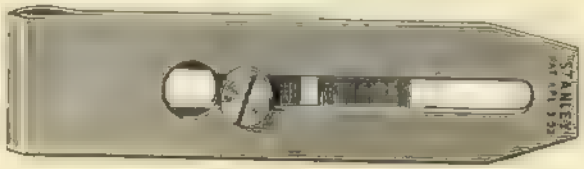
Steel Planes.

No. 104.

No. 105.

104.	Smooth Plane,	9 in.	2⅛ in.	2.75	105.	Jack Plane,	14 in.	2⅛ in.	3.50

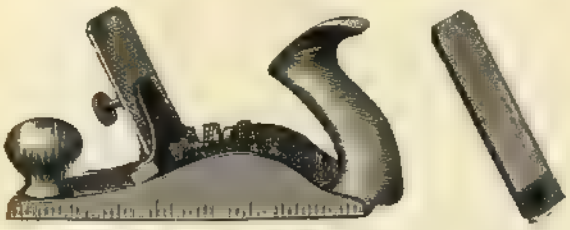
Stanley Plane Irons.



Inches,	1¾	2⅛	2⅜	2⅝
Single Irons, Per Dozen,	$3.36	3.96	4.44	4.80
Double Irons, Per Dozen,	6.00	7.20	7.80	8.40

Stanley's Adjustable Planes.

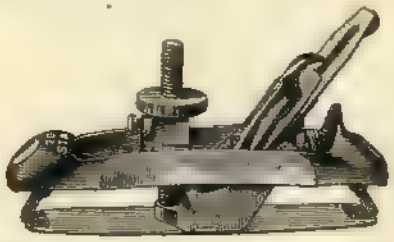
Adjustable Scraper Plane.



This Tool, by its peculiar construction can be used for scraping and finishing Veneers, Cabinet Work or Hard Woods in any form. By use of an Extra Cutter specially prepared, a superior Toothing Plane is made; and in addition to the ordinary uses of such a Plane, this one will do excellent work in scraping off old paint and glue.

No.		Each
112.	Adjustable Scraper Plane, 9 in. in Length, 3 in. Cutter,	$3.00
	Cutters for Veneer Scraping	.25
	Cutters for Toothing, Nos. 22, 28, 32, (22, 28 or 32 teeth per in.,)	.35

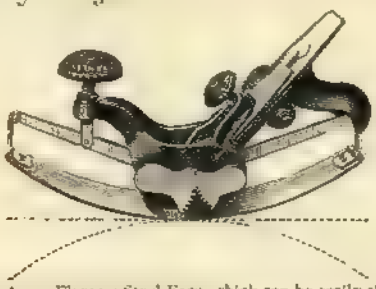
Improved Victor Circular Plane.



This Plane is furnished with our latest adjustments, both longitudinal and lateral, together with "Stanley's Patent Improved Plane Irons."

20. **Adjustable Circular Plane, Nickled, 1¾ inch Cutter,** 6.00

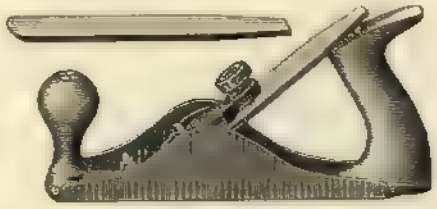
Stanley Adjustable Circular Plane.



This Plane has a Flexible Steel Face, which can be easily shaped to any required arc either concave or convex, by turning the Knob on the front of the Plane

113. **Adjustable Circular Plane, 1¾ inch Cutter,** . . 4.00

Improved Scrub Plane.



This Tool has a single Iron with the cutting edge rounded; and is particularly adapted for roughing down work before using a Jack or other Plane

No.		Each
40.	Iron Stock, 9½ inches in Length, 1¾ inch Cutter,	$1.00

Bailey's Adjustable Circular Plane

This Plane has a Flexible Steel Face, and by means of the thumb screws at each end of the Stock, can be easily adapted to plane circular work, either concave or convex.

13. **Circular Plane, 1¾ inch Cutter,** . . 4.00

Bull-Nose Rabbet Plane.

75. **Iron Stock, 4 inches in Length, 1 inch Cutter,** .50

Adjustable Chamfer Plane.

The front section of this Plane is movable up and down. It can be firmly secured to the rear section at any desired point, by means of a thumb screw. Without the use of any other tool, this plane will do perfect chamfer or stop-chamfer work of all ordinary widths

72. **Chamfer Plane, 9 inches in Length, 1⅝ inch Cutter,** 2.00
72½. **Chamfer Plane, with Beading and Moulding Attachment,** . . . 3.00

Bailey's Patent Adjustable Planes.

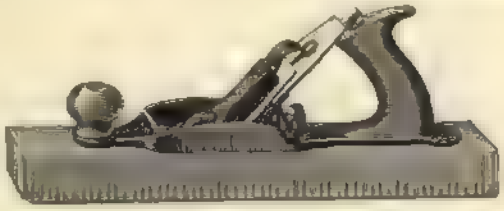
The "Genuine" manufactured by The Stanley Rule and Level Co.

Wood Planes.

No. 23.

No. 35.

No.		Length	Cutter	Each	No.		Length	Cutter	Each
22.	Smooth Plane,	8 in.	1¾ in.	$2.00	35.	Hand'd, Smooth,	9 in.	2 in.	$2.50
23.	Smooth Plane,	9 in.	1¾ in.	2.00	36.	Hand'd, Smooth,	10 in.	2⅜ in.	2.75
24.	Smooth Plane,	8 in.	2 in.	2.00	37.	Jenny, Smooth,	13 in.	2⅝ in.	3.00



No. 29.

27.	Jack Plane, .	15 in.	2⅛ in.	2.50	32.	Jointer Plane,	26 in.	2⅝ in.	3.25
29.	Fore Plane,	20 in.	2⅜ in.	2.75	33.	Jointer Plane,	28 in.	2⅝ in.	3.25
31	Jointer Plane,	24 in.	2⅜ in.	3.00	34.	Jointer Plane,	30 in.	2⅝ in.	3.50

Iron Planes.

No. 2.

No. 5.

2.	Smooth Plane, 7	in.	1⅝ in.	2.75	5.	Jack Plane, .	14 in.	2 in.	3.75
3.	Smooth Plane, 8	in.	1¾ in.	3.00	6.	Fore Plane,	18 in.	2⅜ in.	4.75
4.	Smooth Plane, 8½	in.	2 in.	3.25	7.	Jointer Plane,	22 in.	2⅜ in.	5.50
4½.	Smooth Plane, 10	in.	2⅜ in.	3.75	8.	Jointer Plane,	24 in.	2⅝ in.	6.50

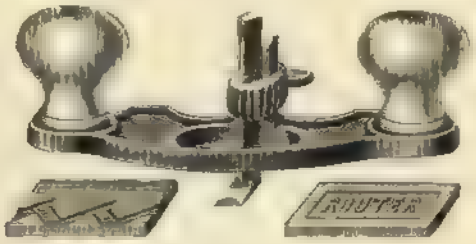
Bailey's Plane Irons.

Illustration of Plane Iron, with Cap-screw moved to back end of the slot, and in position for sharpening the Iron, without removing the cap.

Inches,	1¼	1⅝	1¾	2	2⅛	2⅜	2⅝
Single Irons, Per Dozen,	$2.40	3.00	3.36	3.60	3.96	4.44	4.80
Double Irons, Per Dozen,	$4.80	5.40	6.00	6.60	7.20	7.80	8.40

Stanley's Patent Planes.

Router Plane, Improved.



No. | Each

71. Iron Stock with Steel Bits ¼ and ⅛ inch, ... $1.50

Floor Plane.

74. Floor Plane, 10½ inches long, 2⅝ inch Cutter, ... 4.50
Weight, 10 lbs., length of Handle, 45 inches.

Carriage Makers Plane.

Each

10½ Carriage Makers, 9 in.. 2⅜ in. Bit, $3.75

Bailey's Veneer Scrapers.

No. 12.

12. Baileys Scraper, 3 in. Cutter, Adjust'e, 3.50
Extra Cutters for No. 12 Scrapers. .30

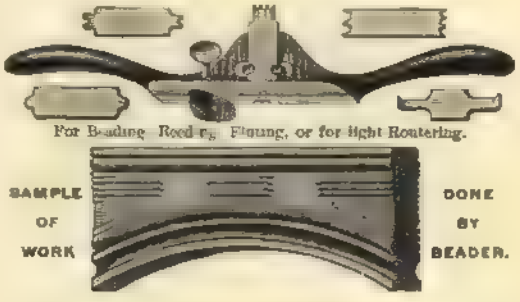
Hand Veneer Scrapers.

Inches,	3x4	3x5	3x6
Per Dozen,	$1.25	1.38	1.50

Chisel Gauge.

96. Chisel Gauge, Steel Stock, . .20
Attach to ¼ inch Chisel for Blind Nailing, etc.

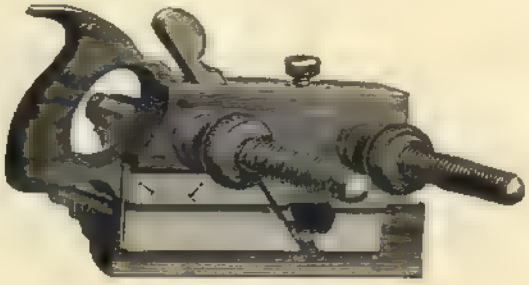
Universal Hand Beader.



66. Iron Stock, with 7 Steel Cutters, . 1.00
6 Sizes of Beads. 4 Sets of Reeds.
2 Fluters and 2 Routers.

Moulding Planes.

Panel Plows.

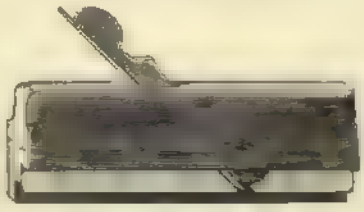


No. 119.

With Eight Cast Steel Bits.

Sandusky Tool Co.'s.	Ohio Tool Co.'s.	Each List.	Each Net.	Description.
117	95	$4.50		Beechwood, Screw Stop and Arms.
119	96½	5.50		Beechwood, Handled, Screw Stop and Arms.
124	101	7.00		Beechwood, Handled, Boxwood Arms and Fence.
132	104	9.00		Boxwood, Handled, Screw Stop and Arms.

Match Planes.



No. 99.

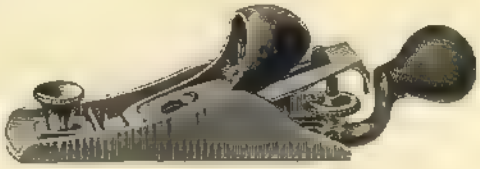
99	75	1.25	Board, Match, . . ⅜ ½ ⅝ ¾ ⅞ and 1 inch.
99¾	76	1.50	Board, Match, Plated, . ½ ⅝ ¾ ⅞ and 1 inch.
099	75½	1.50	Board, Match, Twin, ... ½ and 1 inch.
102	78	2.25	Board, Match, Handled, Plated, ½ ⅝ ¾ ⅞ and 1 inch.
106½	84	3.75	Plank, Match, Screw Arms, Full Plated.

Fillister Planes.

No. 69.

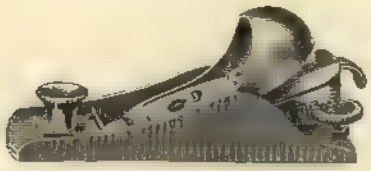
67	53	1.40	Fillister, with Brass Side Stop and Cutter.
69	55	2.50	Fillister, with Brass Screw Stop and Cutter, Boxed.
72	58	4.75	Fillister, Boxwood Arms, Brass Screw Stop, Handled.

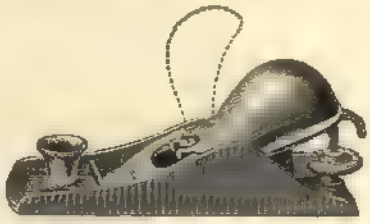
Bailey's Adjustable Block Planes.



No.		Length.	Cutter.	Each	No.		Length.	Cutter.	Each
9½.	Block Plane,	6 in.	1¾ in.	$1.50	9¾.	Block Plane,	6 in.	1¾ in.	$1.75
15.	Block Plane,	7 in.	1¾ in.	1.60	15½.	Block Plane,	7 in.	1¾ in.	1.85

Planes Nos. 9½, 9¾, 15 and 15½ are now furnished with Stanley's Patent Lateral Adjustment.





16.	Block Plane,	6 in.	1¾ in.	1.65	18.	Knuckle Joint,	6 in.	1¾ in.	1.75
17.	Block Plane,	7 in.	1¾ in.	1.75	19.	Knuckle Joint,	7 in.	1¾ in.	1.85

Planes Nos. 16, 17, 18 and 19 are Nickel Plated, and have Stanley's Lateral Adjustment.

Cutters for above Block Planes, warranted Cast Steel, ...20

Stanley Iron Block Planes.

101.	Block Plane,	3½ in.	1 in.	.20	102.	Block Plane,	5½ in.	1¼ in.	.40
	Cutters for No. 101 Plane,	.	.	.07		Cutters for No. 102 Plane,	.	.	.13

Adjustable.

103.	Block Plane,	5½ in.	1¼ in.	.60	110.	Block Plane,	7½ in.	1¾ in.	.60
	Cutters for No. 103 Plane,	.	.	.13		Cutters for No. 110 Plane,	.	.	.17

Adjustable.

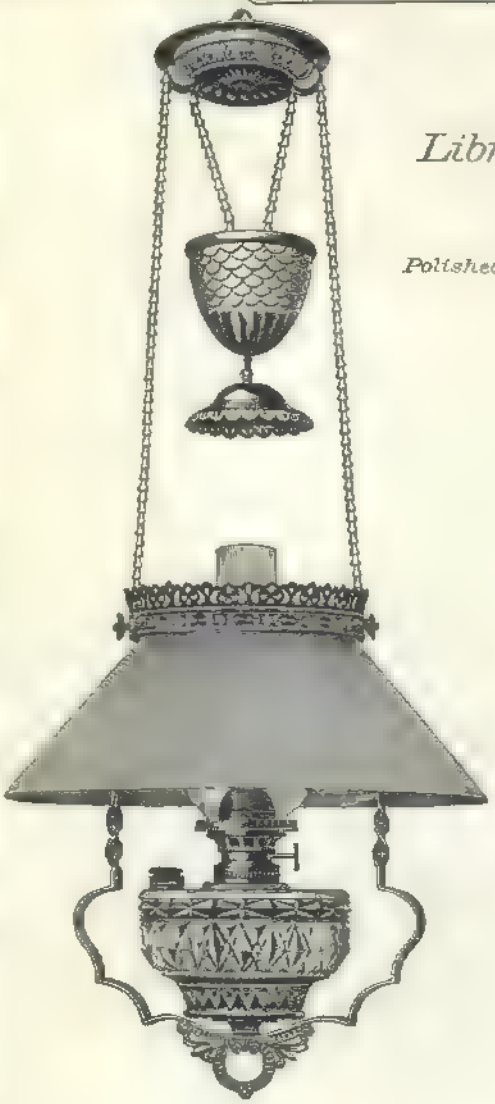
Double Ender.

120	Block Plane,	7½ in.	1¾ in.	.85	130.	Block Plane,	8 in.	1¾ in.	.80

Cutters for above Block Planes, warranted Cast Steel, ...17

Library Lamps.

Polished Bronze Metal.



No. 487.

No. 6817.

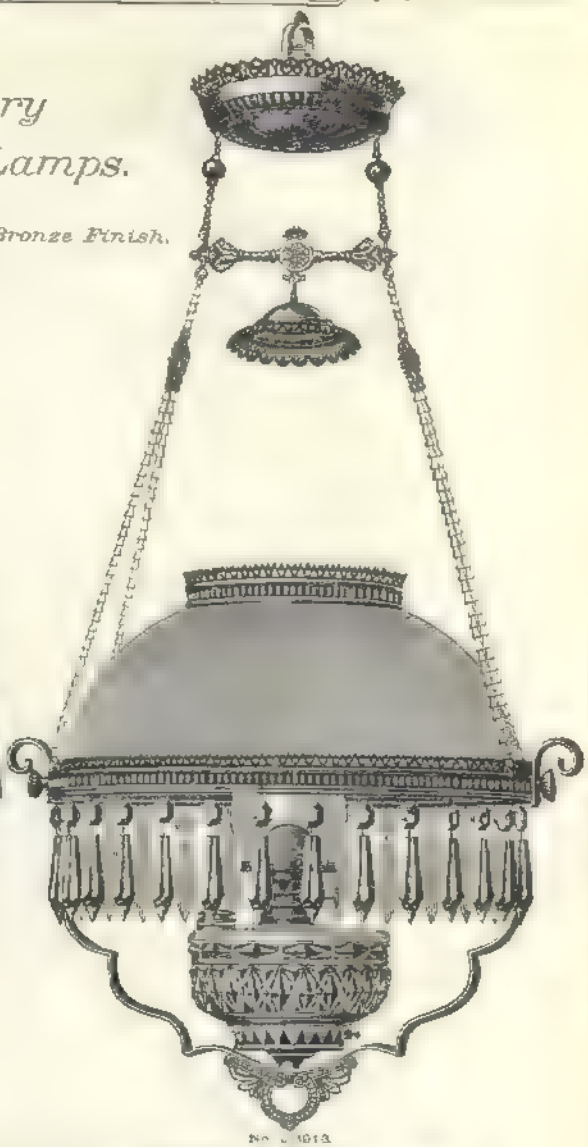
NO.	DESCRIPTION	EACH
487	Library Lamp, with Ball Weight Extension, Glass Fount, No. 2 Sun Burner and Chimney, and 14 inch White Cone Shade. Length, Closed, 36 inches; Extended, 56 inches,	$2 25
488	Same as No. 487, but without Shade,	1 85
6817	Library Lamp, with Patent Automatic Spring Extension, Glass Fount, No. 2 Embossed Sun Burner and Chimney, and 14 inch White Cone Shade. Length, Closed, 35 inches; Extended, 60 inches,	2 75
6818	Same as No. 6817, but without Shade,	2 35

These Lamps are finished in Rich Gold with Embossed Strap Harps. Have Imitation Cut Glass Founts, with Outside Filler, so that the Lamps may be filled without taking off Burner or Chimney

Library Lamps.

Polished Bronze Finish.

No. 489.



No. D6913.

NO.	DESCRIPTION.	EACH
489	Library Lamp, with Glass Fount, No. 2 Sun Burner and Chimney, and 14 inch Decorated Dome Shade, Ball Extension. Length, Closed, 45 inches; Extended, 60 inches.	$3 10
4810	Same as No. 489, but with 14 inch White Cone Shade,	2 90
4811	Same as No. 489, but without Shade,	2 13
D6914	Library Lamp, with Glass Fount, No. 2 Sun Burner and Chimney, 14 inch Decorated Dome Shade, Automatic Spring Extension. Length, Closed, 30 inches; Extended, 67 inches: 30 Prisms;	5 55
D6913	Same as No. D6914, but with 14 inch White Dome Shade as shown,	5 10
D6915	Same as No. D6914, but without Shade,	4 55

These Lamps are finished in Rich Colors, with Embossed Strap Harps and Imitation Cut Glass Founts with outside filler, so that the Lamps may be filled without taking off Burner or Chimney.

Decorated Library Lamps.

Shades and Founts decorated to match.

No. D6907.

No. D6907.

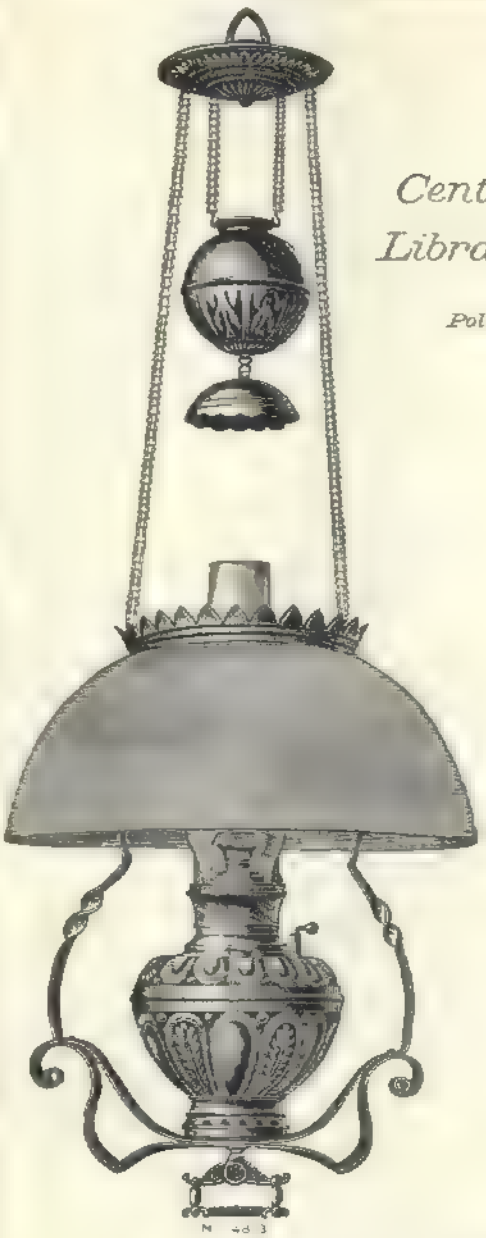
Automatic Spring Extension on Large Burners.

NO.	DESCRIPTION.	EACH.
D6907	Library Lamp, with Decorated Shade and Fount to match, complete with Solar Burner, and Chimney,	$4 45
D6907	Library Lamp, with Decorated Shade and Fount to match, Spring Extension, 80 Prisms, Solar Burner, and Chimney,	6 00

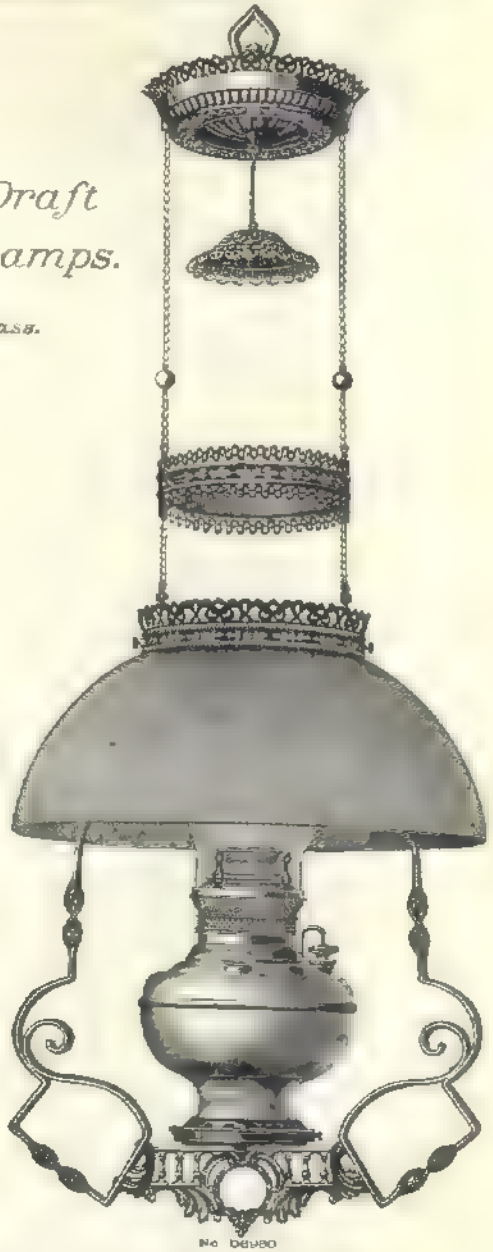
Polished Bronze Frames, Handsomely Decorated Shades and Founts. Length, Closed, 38 inches; Extended, 60 inches.

Central Draft Library Lamps.

Polished Brass.



No 4643



No D6980

NO.	DESCRIPTION	EACH
4643	Central Draft Library Lamp, Complete with 14 inch Dome Shade and Chimney. Ball and Weight Extension. Length, Closed, 40 inches; Extended, 60 inches,	$ 5 [illegible]
4818	Same as No. 4819, but without Shade,	4 50
D6980	Mantel Library Lamp, Complete with 14 inch Dome Shade and Chimney. Automatic Spring Extension. Length, Closed, 30 inches; Extended, 68 inches,	6 00
D6961	Same as No. D6980, but without Shade,	5 45

Miller

Library Lamps

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
D6901	Library Lamp, with No. 2 Miller Embossed Fount, complete with 14 inch White Dome Shade, as shown,	$8 00
D6902	Same as No. D6901 but with 14 inch Decorated Shade. Assorted Decorations.	6 45
D6903	Same as No. D6901 but without Shade.	5 45

Length, Closed 30 inches, Extended 90 inches. Antique Brass Finish.

FOR DECORATED SHADES TO FIT THESE LAMPS, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

The Miller Lamp is handsome in appearance. Every Lamp has lighting device, Oil Indicator and other improvements. No trial is necessary; they work well from the start.

Central Draft Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
D6932	Library Lamp, with No. 2 Miller Burner, Complete, with 14 inch White Dome Shade,	$6 95
D6936	Same as No. D6932, but with 14 inch Decorated Basque Shade, Assorted Decorations,	7 40
D6989	Same as No. D6932, but without Shade.	6 40

Length, Closed, 30 inches; Extends 66 inches. Detachable Metal Fount; Polished Bronze Finish Embossed Metal Vase. These Lamps take No. 2 Rochester Chimney and Wick.

FOR DECORATED SHADES TO FIT THESE LAMPS SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

No. D6932.

Rochester Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION	EACH
D6992	Rochester Library Lamp, with No 2 Rochester Burner, complete, as shown in cut, including 14 [illegible] Plain White Dome Shade, Rich Gold Fount, Chimney and Prisms, - - - - - -	$7 40
D6986	Same as No. 6992, but with Fine Tinted Decorated Bisque Shade, Assorted Decorations, - -	7 85
D6993	Same as 6992, but without Shade,	6 85

A handsome, serviceable Lamp; large light and moderate in price

Length, Closed, 34 inches. Extended, 84 inches. Embossed Straps. Rich Gold Finish, with 20 Prisms. Take No. 2 Rochester Chimney and Wick.

FOR DECORATED SHADES TO FIT THESE LAMPS, SEE ENTIRE LINE AT BACK OF CATALOGUE.

Miller Library Lamps.

Patent Automatic Spring Extension.

NO	DESCRIPTION	EACH
D6939	Library Lamp, with No. 2 Miller Burner and 14 inch Decorated Shade, Complete, -	$8 35
D6940	Same as No. D6939, but with 14 inch White Dome Shade, as shown,	7 85
D6991	Same as No. D6939, but without Shade,	7 30

Finished in Polished Bronze Metal, with Embossed Central Draft Fount. Easily detached from Harp. Can be lighted without removing Chimney. These Lamps take No. 2 Rochester Chimney and Wick. Length, Closed, 35 inches; Extended, 71 inches. 30 Prisms.

FOR DECORATED SHADES TO FIT THESE LAMPS, SEE ENTRE LINE AT BACK OF CATALOG E.

All Miller Lamps can be rewicked in a few seconds.

Miller Library Lamps

Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
D6921	Miller Library Lamp, Complete with No. [illegible] Miller Burner, 14 inch White Dome Shade and 30 Prisms, as shown,	$10 20
D6922	Same as No. D6921, but with Tinted Decorated Bisque Shade, Assorted Colors,	10 65
D6923	Same as D6921, but without Shade,	9 65

Length, Closed, 36 inches, Extended, 72 inches. Polished Bronze Metal; Handsomely Embossed Heavy Metal Frame and Brass Oil Well Cast Ornaments. Takes No. 2 Rochester Chimney and Wick. 30 Prisms.

FOR DECORATED SHADES TO FIT THESE LAMPS, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

All Lamps with Miller Burner can be lighted without removing Chimney.

No. D6921

Miller Central Draft Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
D6982	Library Lamp, with No. 2 Miller Burner, and 14 inch Decorated Glazed Shade to match Fount Holder, 30 Prisms, etc.,	$10 20

Length, Closed, 38 inches; Extended, 73 inches. Detachable Seamless Metal Fount. Artistic Decorated Shade and Fount Holder; Polished Bronze Frame; 30 Prisms. These Lamps take No. 2 Rochester Chimney and Wick.

All Miller Lamps have Oil Indicator, showing when Lamp is filled.

No. D6982.

Miller Central Draft Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
D6953	Library Lamp, with No. 2 Miller Burner, and 14 inch Decorated Bisque Shade to match Fount Holder.	$7 95

Polished Bronze Metal, Detachable Metal Fount. Take No. 2 Rochester Chimney and Wick. Length, Closed, 34 inches; Extended, 70 inches.

Every Miller Lamp is thoroughly tested before leaving the factory.

LAMPS

-- AND --

LAMP GOODS

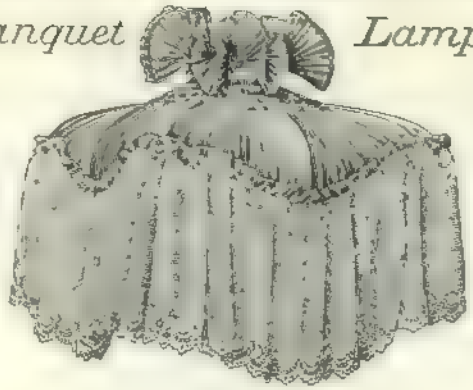
-- OF --

EVERY

DESCRIPTION

Banquet Lamps.

Silk Shades are made in many Beautiful Designs.



No. D1866

For line of Silk Shades see pages at back of catalogue.

We have Silk Shades in all Popular Colors and Combinations.

No. D1601

With Miller Fount.

NO.	DESCRIPTION.	EACH
D1601	Banquet Lamp, as shown above, no Chimney Shade, or Holder, Gilt Finish, Cast Metal, Openwork Head and Bal.,	$13 30
D1602	Same as above, but complete with 12 inch Linen Umbrella Shade, Holder and Chimney,	14 85

Height to top of Burner, 23 inches. Detachable Metal Fount, with Chimney Lift. Takes No. 2 Rochester Chimney and Wick.

No. D1629.

Central Draft Fount.

NO.	DESCRIPTION	EACH
D1629	Banquet Lamp, no Chimney Shade or Holder, Gilt Finish, Figure in Polished Gold, on Onyx Block, Cast Openwork Head and Base,	$12 05
D1630	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	13 00

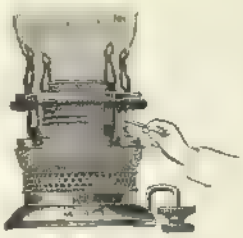
Height to top of Burner, 21 inches. Detachable Metal Fount, can be lighted without removing Chimney. Takes No. 2 Rochester Chimney and Wick.

Central Draft Fount.

NO.	DESCRIPTION.	EACH
D1624	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gilt Finish, Figure in Satin Silver and Cast Metal, Onyx Base, [illegible] inches.	$12 65
D1625	Same as above but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	13 50

[illegible] Height to top of Burner 21 inches. Detachable Metal [illegible] can be lighted without removing Chimney. Takes No. 2 Rochester Chimney and Wick.

Banquet Lamps.



Miller Burner, showing Lift Attachment for Lighting.

No. D1677.

For Complete Line of Silk Shades, refer to pages at back of catalogue.

Miller Lamps are fitted with an Indicator showing when Lamp is filled.

No. D1686

With Miller Fount.

NO.	DESCRIPTION	EACH
D1685	Banquet Lamp as shown above, no Chimney, Shade or Holder, Polished Cut Brass, 5 inch Onyx Column, Miller Lift Burner,	$10 20
D1686	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	11 10

Height to top of Burner, 21 inches. Detachable Metal Fount. Takes No. 2 Rochester Chimney and Wick.

No. D1677

With Miller Fount.

NO.	DESCRIPTION.	EACH.
D1677	Banquet Lamp, no Chimney, Shade or Holder, Gold Plate, all Cast Openwork, Miller Lift Burner,	$10 20
D1678	Same as above, but complete with 12 inch Linen Umbrella Shade, Holder and Chimney,	11 10

Height to top of Burner, 21 inches. Detachable Metal Fount. Takes No. 2 Rochester Chimney and Wick.

No. D1680

With Miller Fount.

NO.	DESCRIPTION.	EACH.
D1680	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gold Plate, 8¾ inch Taper Onyx Column,	$11 10
D1681	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	12 00

Height to top of Burner, 21 inches. Detachable Metal Fount. Takes No. 2 Rochester Chimney and Wick.

Banquet Lamps.

Central Draft Lamps are the best

Banquet Lamps are ornamental as well as useful.

No. D1525

Silk Shades [illegible] the sale of Banquet Lamps. See our [illegible] page

No D1645

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D1648	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gilt Finish, Cast Foot, 4 inch Onyx Column,	$5 85
D1649	Same as above, but complete with 12 inch Linen Umbrella Shade, any color, Holder and Chimney.	[illegible]

Height to top of Burner [illegible] Detachable Metal Fount. Takes No. 2 Rochester Chimney and Wick.

No. D1675

With Central Draft Fount.

NO.	DESCRIPTION.	EACH.
D1675	Banquet Lamp, as shown above, no Chimney, Shade or Holder,	$6 05
D1676	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade, any color, and Holder.	7 90

Height to top of Burner, 21 inches. Detachable Fount. Embossed Metal Head. Cast Metal Stand with Fluted Center.

Spread of Cast Openwork Base, 8¼ inches. Finished in Gilt, with Fluted Part in Roman Antique.

No D1642

With Central Draft Fount.

NO.	DESCRIPTION.	EACH.
D1642	Banquet Lamp, no Chimney, Shade or Holder, Polished Gilt Finish,	$8 35
D1643	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	[illegible]

Height to top of Burner, 20 inches. Detachable Metal Fount. Can be lighted without removing Chimney. Takes No. 2 B. & B. Chimney and Wick.

Banquet Lamps.

In point of Style, Finish and Durability these Lamps rank supreme.

No. D1631

With B. & H. Fount.

NO.	DESCRIPTION	EACH.
D1631	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gold and Pompeian, -	$19 45
D1632	Same as above, but complete with Chimney, 12 in. Linen Umbrella Shade and Holder. -	20 40

Height to top of Burner, 23½ inches. Detachable Seamless Metal Fount. Can be lighted without removing Chimney. Takes No. 2 B. & H. Chimney and Wick.

No. D.690.

With Miller Fount.

NO.	DESCRIPTION.	EACH.
D1690	Banquet Lamp, no Chimney, Shade or Holder, Gold Plate, Royal Finish Ornaments, Fancy Embossed Fount. A splendid lamp,	$20 40
D1691	Same as above, but complete with Chimney, 12 in Linen Umbrella Shade and Holder, -	21 35

Height to top of Burner, 27 inches. Detachable Metal Fount, with Chimney Lift. Takes No. 2 Rochester Chimney and Wick.

No D1633.
"GOOD-NIGHT KISS."

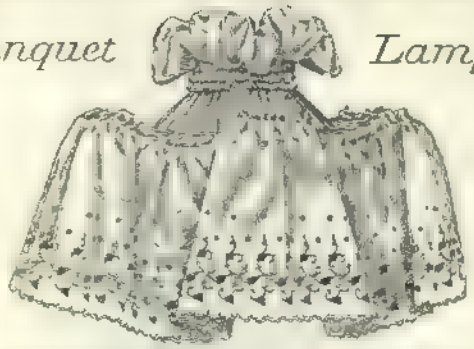
With B. & H. Fount.

NO.	DESCRIPTION.	EACH.
D1633	Banquet Lamp, no Chimney, Shade or Holder, Polished Gold, Mat Silver Figure, - - -	$22 20
D1634	Same as above, but complete with Chimney, 12 in. Linen Umbrella Shade and Holder. -	23 15

Height to top of Burner, 27 inches. Detachable Metal Fount. Can be lighted without removing Chimney. Takes No. 2 B. & H. Chimney and Wick.

Banquet Lamps.

All the Lamps shown on this page are of the best workmanship.



Genuine Gold Plate. High Art Designs. Entirely new.

For elegant Silk Shade to match these Lamps see pages at back of Catalogue.

No D1637

With B. & H. Fount

NO.	DESCRIPTION.	EACH.
D1637	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Yellow and Gold.	$13 90
D1638	Same, but complete with Chimney, 12 inch Linen Umbrella Shade, any color, and Holder.	14 85

Height to top of Burner, 23 inches. Detachable Metal Fount. Can be lighted without removing Chimney. Takes No. 2 B. & H. Chimney and Wick.

Yellow and Gold, the latest finish used in lamp decoration.

No D1644.

With B. & H. Fount.

NO.	DESCRIPTION.	EACH.
D1644	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gold Plate, Imperial Light tan and Gold Center.	$18 50
D1645	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade, any color, and Holder	19 45

Height to top of Burner, 21½ inches. Detachable Seamless Metal Fount. Can be lighted without removing Chimney. Takes No 2 B. & H. Chimney and Wick.

Imperial and Gold, Gold and Antique (dark green) are very stylish finishes.

No. D1646

With B. & H. Fount.

NO.	DESCRIPTION	EACH.
D1646	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gold and Antique	$16 65
D1647	Same as above, but complete with 12 inch Linen Umbrella Shade, any color, Holder and Chimney	17 60

Height to top of Burner, 23 inches. Detachable Metal Fount. Can be lighted without removing Chimney. Takes No. 2 B. & H. Chimney and Wick.

Banquet Lamps.

No. D5 is a great Lamp for the price. Showy and useful. The price—very cheap.

Nos. D1608 and D1379.
Silk Shades for Banquet Lamps. For latest styles see our full line on pages at back of Catalogue

No D7—The best Lamp on the market for the price. A Leader.

No. D5

No. D 1613

With Central Draft Fount.

No. D7

NO.	DESCRIPTION	EACH.
D5	Porcelain Banquet Lamp, as above, complete with Shade to match Lamp, Burner, Holder and Chimney. Assorted Colors, White, Blue and Green. Sold only in original package. Packed 4 or 6 complete Lamps in a barrel, - - - -	$2 75

Height to top of Chimney, 23½ inches. No. 2 Sun Burner, Wick and Chimney

NO.	DESCRIPTION	EACH.
D1613	Banquet Lamp, as shown above, no Chimney, Shade or Holder. Polished Gilt Finish, Mat Silver Figure.	$3 70
D1614	Same as above, but complete with 12 inch Linen Umbrella Shade, Holder and Chimney. -	4 65

Height to top of Burner, 18 inches. Takes No. 2 Rochester Chimney and Wick.

NO.	DESCRIPTION	EACH.
D7	Opal Banquet Lamp, as above, Assorted Decorations, complete, as shown above, with Shade to match. Packed 4 or 6 Lamps in a barrel. Sold only in original package,	$3 25

Height to top of Chimney, 25½ inches. No. 2 Sun Burner, Chimney and Wick.

Banquet Lamps.

A Banquet Lamp with Fancy Silk Shade is the finishing touch to a nicely furnished room

No. D1607

For Elegant Silk Shades see pages at back of Catalogue.

Shades in any Color or Combination, from the Cheapest to the Best.

No. D1618

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D1616	Banquet Lamp, no Chimney, Shade or Holder, Polished Gilt Finish,	$8 50
D1618	Same as above, complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	9 75

Height to top of Burner, 22 inches. Detachable Metal Fount. Can be lighted without removing Chimney. Takes No. 2 Rochester Chimney and Wick.

No. D1619.

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D1619	Banquet Lamp, no Chimney, Shade or Holder Gold Plate, all Cast Openwork	$8 50
D1620	Same as above, but complete with 12 inch Linen Umbrella Shade, Holder and Chimney,	9 25

Height to top of Burner 21 inches. Detachable Metal Fount. Takes No. 2 Rochester Chimney and Wick.

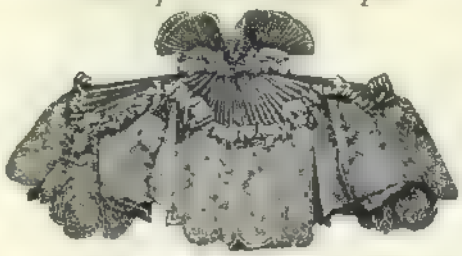
No. 1641

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D1641	Banquet Lamp complete as above, Assorted Colors, Rose, Blue, Yellow and Green, Glaze Finish, Base and other Trimmings Gilt Finish	$10 20

Height to top of Chimney 24 inches. Detachable Metal Fount. Takes No. 2 Rochester Chimney and Wick.

Banquet Lamps.



No. [illegible]

See complete assortment of [illegible] at back of catalogue

No. [illegible]

With [illegible] Font.

No.	DESCRIPTION	[illegible]
D161	[illegible] Shade [illegible] Holder, Polished [illegible]	$4 15
D165	Same as No. D161, but [illegible] Shade and [illegible] Holder	5 15

Height to top of Burner 23 inches. [illegible] weighted with three removable [illegible]. Takes No. B 2 Chimney and Wick.

No. D 8 1

With Central Draft Fount.

No.	DESCRIPTION.	[illegible]
D871	Banquet Lamp, as shown, [illegible] Chimney Shade, Polished Brass Trimmings, Fount [illegible] Center	$4 10
D872	Same as No. D871, but [illegible] with 12 inch Linen Shade and Holder	5 55

Height to top of Burner [illegible] inches. Takes No. 2 Rochester Chimney and Wick.

No. D 827 and D 868

With Central Draft Fount.

No.	DESCRIPTION	[illegible]
D[illegible]	Banquet Lamp, as [illegible] Shade Holder, Chimney, Polished Brass [illegible]	$5 15
D[illegible]	Same as No. [illegible] but Silver Finish	[illegible]
D1750	Same as No. D1500, but complete with Linen Shade, Holder and Chimney, Polished Brass, Gilt Finish	5 55
D1900	Same as No. D1750, but Silver Finish	6 50

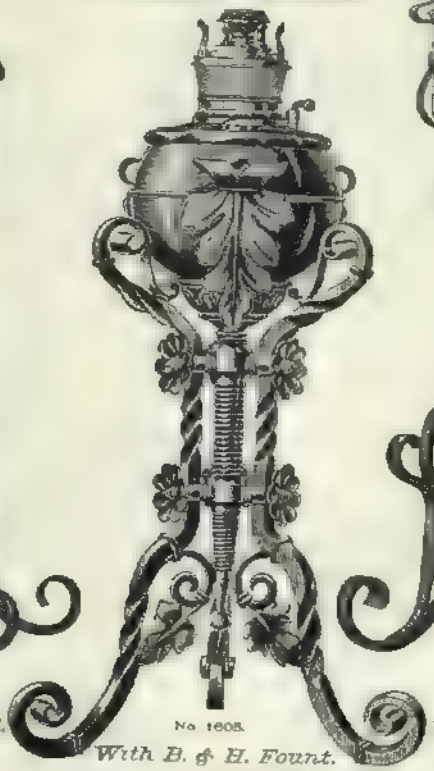
Height to top of Burner 40 inches. Table Model. Fount [illegible] Chimney. Takes [illegible] Wick.

Banquet Lamps.

No. D1607
Silk Shades [illegible] Lamp, see page fourteen hundred and [illegible] of Catalogue.

No. D1608.

With Central Draft Fount.



No. 1605.

With B. & H. Fount.

No. D1610

With Central Draft Fount.

NO.	DESCRIPTION.	EACH.
D1608	Banquet Lamp, as shown above, no Chimney, Shade or Holder Black Wrought Iron Finish,	$10 20
D1609	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder	11 10

Height to top of Burner, 23 inches. Detachable Meta Fount. Takes No. 2 Rochester Chimney and Wick.

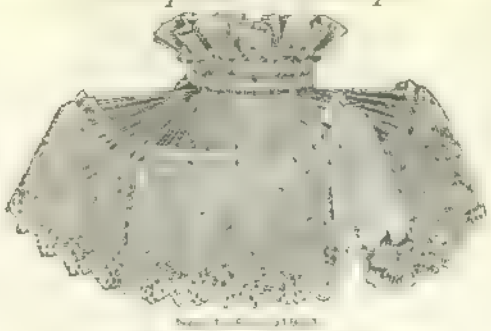
NO.	DESCRIPTION	EACH
1605	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Black, Wrought Iron Finish,	$11 10
1606	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder,	12 00

Height to top of Burner, 23 inches. Detachable Meta Fount can be set without removing Chimney. Takes No. 2 B. & H. Chimney and Wick.

NO.	DESCRIPTION.	EACH
D1610	Banquet Lamp, as shown above, no Chimney Shade or Holder, Black, Wrought Iron Finish,	$8 80
D1611	Same as above, but complete with Chimney, Linen Umbrella Shade and Holder,	9 75

Height to top of Burner, 25 inches. Detachable Meta Fount. Takes No. 2 Rochester Chimney and Wick.

Banquet Lamps.



No. D 658

No. D 716

No. D 729

With Central Draft Fount

NO.	DESCRIPTION	EACH
D.658	Banquet Lamp, no Chimney, Shade or Holder, Wrought Iron Finish,	$8 55
D1637	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade, any color and Holder,	9 75

Height to top of Burner 21 inches. Diameter of Font 7 inches. Made of Malleable Iron. Takes No. 2 Burner. Rochester Chimney and Wick.

With Central Draft Fount

NO.	DESCRIPTION	EACH
D. 8	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Wrought Iron Finish,	$8 80
D1718	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade, any color and Holder,	9 75

Height to top of Burner 21 inches. Diameter of Font 7 inches. Made of Malleable Iron. Takes No. 2 Burner. Rochester Chimney and Wick.

With Central Draft Fount

NO.	DESCRIPTION	EACH
D1723	Banquet Lamp, no Chimney, Shade or Holder, Black Wrought Iron,	$8 80
D1724	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade, any color, and Holder,	9 75

Height to top of Burner 21 inches. Diameter of Font 7 inches. Made of Malleable Iron. Takes No. 2 Burner. Rochester Chimney and Wick.

Banquet Lamps.

These Lamps give light equal to 65 candles.

No smoke.
No odor
No dust

Nos. D [illegible] and D 1[illegible]
Banquet Lamps, to look Artistic, should be trimmed with Silk Shades. See our Full Line on pages at back of Catalogue

No. D1767

With Central Draft Fount.

No.	DESCRIPTION.	EACH.
D1767	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Polished Brass,	$2 10
D1768	Same as above, but complete with 12 inch Linen Umbrella Shade Holder and Chimney.	3 35

Height to top of Burner, 20 inches. Takes No. 2 Rochester Chimney and Wick.

No. D1938

With Central Draft Fount.

No.	DESCRIPTION	EACH.
D1938	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Polished Gilt Finish, Figure in Silver Finish, Cast Openwork Base,	$3 25
D1063	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade any color, and Holder,	4 20

Height to top of Burner, 20 inches. Takes No. 2 Rochester Chimney and Wick.

No. D 738

With Central Draft Fount

No.	DESCRIPTION	EACH.
D1737	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Polished Gilt Finish	$3 35
D1737	Same as above, but complete with 12 inch Linen Umbrella Shade Holder, Holder and Chimney,	4 00

Height to top of Burner, 20 inches. Embossed Metal Font, Cast Base, Gilt Finish. Takes No. 2 Rochester Chimney and Wick.

Banquet Lamps.

Banquet Lamps without question are the Lamps of the season.

To rightly show Banquet Lamps trim them with Silk Shades.

No. D1658

With Central Draft Fount.

NO.	DESCRIPTION	EACH
D1658	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Polished Gilt Finish, 3 inch Onyx Center,	$13 00
D1659	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder.	13 90

Height to top of Burner 23 inches. Takes No. 2 Rochester Chimney and Wick. Can be lighted without removing Chimney.

With Miller Fount.

NO.	DESCRIPTION	EACH.
1726	Banquet Lamp, no Chimney, Shade or Holder, Bacarat Vase and Fount Holder. Two Colors, Canary and Green, Gold Plated Trimmings,	$13 00
1727	Same as No. 1726, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	13 00

Height to top of Burner 23 inches. Detachable Metal Mount. Takes No. 2 Rochester Chimney and Wick. For Silk Shades to match these Lamps see pages at back of catalogue.

No. D1603

With Miller Fount.

NO.	DESCRIPTION.	EACH.
D1603	Banquet Lamp, as shown above, no Chimney, Shade or Holder, Gilt Finish Onyx Column,	$14 50
D1604	Same as above, but complete with Chimney, 12 inch Linen Umbrella Shade and Holder,	15 70

Height to top of Burner 23 inches. Detachable Solid Brass Mount and Can be lighted without removing Chimney. Takes No. 2 Rochester Chimney and Wick.

B. & H. Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
6983	Library Lamp, with No. 1 B. & H. Fount, 14 inch White Dome Shade, 30 Prisms, Complete as shown, -	$9 25
6984	Same as No. 6983, but with 14 inch Decorated Bisque Dome Shade, - -	9 70
6985	Same as No. 6983, but without Shade, - - - - -	8 75

Polished Bronze Metal. Detachable Embossed Metal Fount. Can be lighted without removing Chimney. Burns eight hours. Can be re-wicked in an instant. Takes No. 1 Rochester Chimney and Wick. Length, Closed, 35 inches; Extended, 71 inches.

FOR DECORATED SHADES TO FIT THESE LAMPS, SEE ENTIRE LINE AT BACK OF CATALOGUE.

No. 6983

No. D8966

Miller Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION	EACH
D8966	Library Lamp, with No. 2 Miller Burner, 14 inch White Dome Shade, 30 Prisms, Complete, as shown,	$10 20
D8967	Same as No. D8966, but with 14 inch Decorated Bisque Dome Shade,	10 65
D8968	Same as No. D8966, but without Shade,	9 65

Length, Closed, 35 inches Extended, 69 inches. Detachable Metal Mount, with Miller Left Burner

POLISHED BRONZE METAL. VASE FINISHED IN SATIN, RICH GOLD WITH RED GT SILVER ORNAMENTS.

Takes No. 2 Rochester Chimney and Wick

The Miller Lamp when burning can be regulated to a nicety with the improved Ratchet Movement.

Miller Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION	EACH
D6905	Library Lamp, with No. 2 Miller Fount, 14 in. White Dome Shade, 30 Prisms, Complete, as shown,	$11 10
D6908	Same as No. D6905 but with 14 inch Decorated Basque Dome Shade,	11 55
D6900	Same as No. D6905, but without Shade,	10 55

Length, Closed, 36 inches Extended 71 inches. Detachable Miller Metal Fount, with Lift Burner

POLISHED BRONZE METAL. VASE FINISHED IN SATIN SILVER, WITH POLISHED BRONZE ORNAMENTS.

Takes No. 2 Rochester Chimney and Wick

The Wick of the Miller Lamp can be adjusted by either the Plunge Bar Movement or the convenient Spiral Screw.

No D6905.

No. D6988.

Miller Library Lamps.

Patent Automatic Spring Extension.

NO	DESCRIPTION.	EACH.
D6987	Library Lamp, with No. 2 Miller Burner and 14 inch Decorated Shade, 30 Prisms, complete,	$12 95
D6988	Same as No. D6987, but with 14 inch White Dome Shade, as shown,	12 50
D6990	Same as No. D6987, but without Shade,	11 95

Length, Closed, 33 inches; Extended, 71 inches. Detachable Metal Fount, with Miller Left Burner

POLISHED BRONZE METAL. VASE FINISHED IN METAL OR ANTIQUE, WITH POLISHED BRONZE ORNAMENTS.

Takes No. 2 Rochester Chimney and Wick

The Miller Lamp is cleanly. Patented devices prevent overflowing. All surplus oil is conducted back into the Oil Fount, consequently does not spread over the outside of the Lamp.

B. & H. Library Lamps.

Patent Automatic Spring Extension.

NO	DESCRIPTION.	EACH
6819	Library Lamp, with No. 2 B. & H. Burner, 14 in. Decorated Bisque Dome Shade to match Fount Holder, Assorted Colors and Decorations, 30 Prisms as shown,	$9 70

Polished Bronze Metal, Detachable Seamless Metal Fount. Can be lighted without removing Chimney. Takes No. 2 B. & H. Chimney and Wick. Length Closed, 35 inches, Extended, 71 inches.

No 6819

No D6965.

Miller Central Draft Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION	EACH.
D6965	Library Lamp, with No. 2 Miller Burner, 14 inch Decorated Bisque Shade to match Fount Holder. Assorted Colors and Decorations, 30 Prisms,	$11 55

Polished Bronze Metal. Detachable Metal Fount. Take No. 2 Rochester Chimney and Wick. Length, Closed, 36 inches; Extended, 71 inches.

There are only three parts to the Miller Burner, making it easy to clean. The Miller Lamp is guaranteed to give satisfaction.

B. & H.
Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH.
6927	Library Lamp, with No. 2 B. & H. Burner, 14 inch Decorated Buque Dome Shade to match Fount Holder, 30 Prisms, as Shown,	$12 50

Polished Bronze Metal, with Old Ivory Trimmings; Detachable Seamless Metal Fount. Can be lighted without taking off Chimney. Takes No. 2 B & H. Chimney and Wick. Length, Closed, 35 inches. Extended. 71 inches.

No. 6927.

No 6928

B. & H. Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION	EACH.
6928	Library Lamp with No. 2 B. & H. Burner, 14 in. Decorated Basque Dome Shade to match Fount Holder, 30 Prisms, as shown, - - - -	$18 00

Polished Bronze Metal with Old Ivory Trimmings; Detachable Seamless Metal Fount. Can be lighted without taking off Chimney. Takes No. 2 B. & H. Chimney and Wick. Length, Closed, 33 inches; Extended, 72 inches.

Central Draft Library Lamps.

Patent Automatic Spring Extension.

NO	DESCRIPTION	EACH
6952	Library Lamp, with No. 2 Miller Burner, 14 inch White Dome Shade, Chimney and 30 Prisms,	$13 40
6954	Same as No. 6952, but with 14 inch Decorated Bisque Shade, -	13 90
6940	Same as No. 6952, but without Shade. - - - - - -	12 99

Polished Bronze Metal, with Cast Vase in Antique Brass, Detachable Metal Font, Pull Down and Ornaments in Bright Silver Finish. Take No. 2 Rochester Chimney and Wick. Length, Closed, 36 Inches. Extended 72 Inches.

FOR DECORATED SHADES FOR THESE LAMPS, SEE ENTIRE LINE AT BACK OF CATALOGUE.

The Miller Lamp Wins. Why? Because it is constructed on scientific principles. It cannot get out of order. You can rely on it every time.

No 6952

No. 6916.

B. & H.
Library Lamps.

Patent Automatic Spring Extension.

NO.	DESCRIPTION.	EACH
6916	Library Lamp, with No. 2 B. & H. Burner, 14 inch White Dome Shade and 30 Prisms, as shown,	$14 80
6917	Same as No. 6916, but with 14 inch Decorated Bisque Shade, -	15 25
6915	Same as No. 6916, but without Shade, - - - - - -	14 25

Polished Bronze Metal Silver Finish Vase; Detachable Seamless Metal Fount. Can be lighted without removing Chimney. Take No. 2 B. & H. Chimney and Wick. Length, 35 inches. Extended, 71 inches.

FOR DECORATED SHADES TO FIT THESE LAMPS, SEE ENTIRE LINE AT BACK OF CATALOGUE.

Assortment of Decorated Library Lamps.

No. 51.

No. 4737

14 in. Decorated Dome Shades to Match the Founts.

ARE NOT SOLD SEPARATELY.

No. 4739

This Assortment is Fitted with the National Burner.

ARE NOT SOLD SEPARATELY.

No. 4740

No. 4738

These Lamps are complete with the exception of the Chimneys, which we do not pack with the Lamps, and Prices do not include them. Any No. 2 Sun Chimney will fit the National Burner.

ARE NOT SOLD SEPARATELY.

No. 4741

The Decorations are of the Best and show to great advantage. Frames are all Brass and Patterns are Entirely New this Year.

ARE NOT SOLD SEPARATELY.

No. 4742

No. 51 Assortment.

EACH.	NO.	DESCRIPTION.	EACH.
1	4737	Patent Weight Extension Library Lamp, Bisque Finish, Assorted Decorations	$2 80
1	4739	Patent Automatic Spring Extension Library Lamp, Bisque Finish, Assorted Decorations,	3 70
1	4740	Patent Automatic Spring Extension Library Lamp, Bisque Finish, Assorted Decorations,	4 00
1	4738	Patent Weight Extension Library Lamp, Bisque Finish, Assorted Decorations, 30 Prisms	4 50
1	4741	Patent Automatic Spring Extension Library Lamp, Bisque Finish, Assorted Decorations, 30 Prisms,	5 50
1	4742	Patent Automatic Spring Extension Library Lamp, Bisque Finish, Assorted Decorations, 30 Prisms,	6 00
6	[illegible]	Assortment for	[illegible]

PACKAGE, 70c. NET

Assortment of Decorated Library Lamps.

No. 412.

14 in. Decorated Tinted Bisque Dome Shades to Match the Founts.

Fitted with No. 2 Embossed Burners, but without Chimneys.

No. 412A.

ARE NOT SOLD SEPARATELY.

No. 412B.

ARE NOT SOLD SEPARATELY.

No. 412C.

All have the Patent Automatic Spring Extension. Length, 34 inches; Extended, 70 inches.

Handsome Brass Frames, Finely Polished, Entirely New Patterns and Decorations.

No. 412D.

ARE NOT SOLD SEPARATELY.

No. 412E.

ARE NOT SOLD SEPARATELY.

No. 412F.

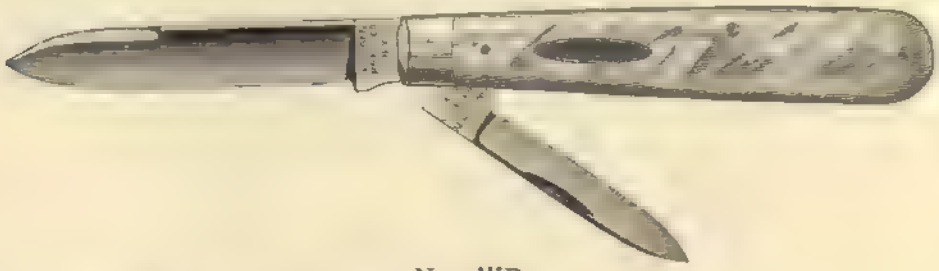
EACH.	NO.	DESCRIPTION.	EACH
1	412A	Library Lamp, with Shade and Burner (no Chimney),	$3 25
1	412B	Library Lamp, with Shade and Burner (no Chimney),	3 50
1	412C	Library Lamp, with Shade and Burner (no Chimney), 30 Prisms,	5 25
1	412D	Library Lamp, with Shade and Burner (no Chimney), 30 Prisms,	5 50
1	412E	Library Lamp, with Shade and Burner (no Chimney), 30 Prisms,	6 50
1	412F	Library Lamp, with Shade and Burner (no Chimney), 30 Prisms,	6 50
6 in all, Assortment No. 412, complete as per description,			$30 50

PACKAGE, 70c. NET

Pocket Knives.

CUTS FULL SIZE

The Walden Knife Co's.



No. 7WP.

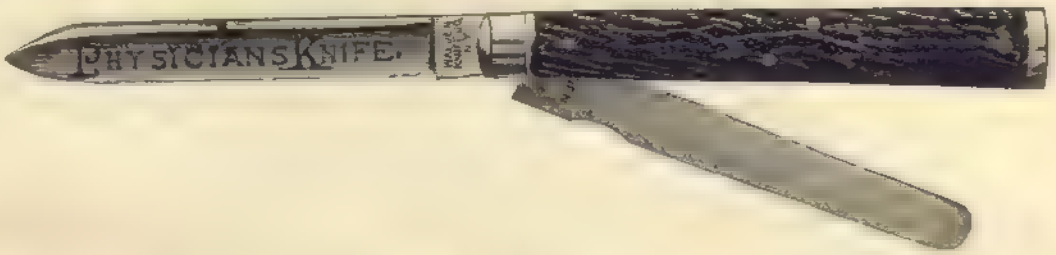
No		Per Dozen
7W.	2 Blades, Buffalo, Brass Lined, Crocus Finish,	$ 6 50
7WC.	2 Blades, Capped, Brass Lined, Crocus Finish,	7.00
7WP.	2 Blades, Pearl, Brass Lined, Crocus Finish,	12.00

No. 711.

711.	2 Blades, Pearl, Capped, Brass Lined, Crocus Finish,	9 50

No. 2404.

2401.	2 Blades, Physicians' Knife, Buffalo, Brass Lined, Crocus Finish,	8.25
2404.	2 Blades, Physicians' Knife, Pearl, Brass Lined, Crocus Finish,	12.75



No. S603.

S601.	Buffalo, Brass Lined, Large Blade and Spatula, Crocus Finish,	8.50
S603.	American Stag, Brass Lined, Large Blade and Spatula, Crocus Finish,	9.00
2601.	2 Blades, Buffalo, Brass Lined, Capped, Crocus Finish,	9.25

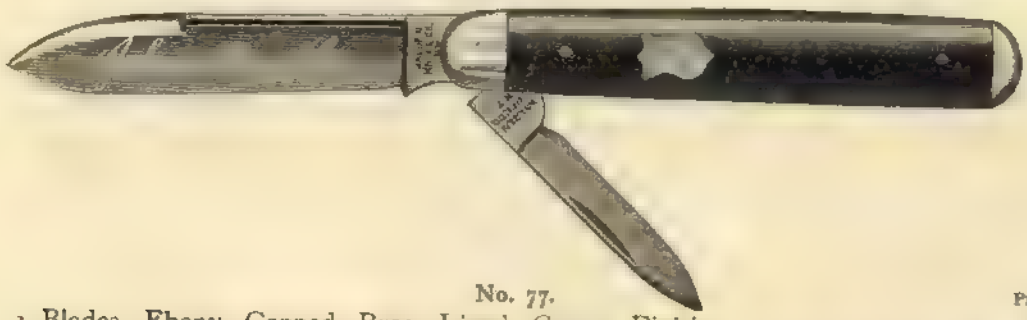
No. 755.

755.	2 Blades, Black Buffalo, Capped, Brass Lined, Crocus Finish,	8.00

Pocket Knives.

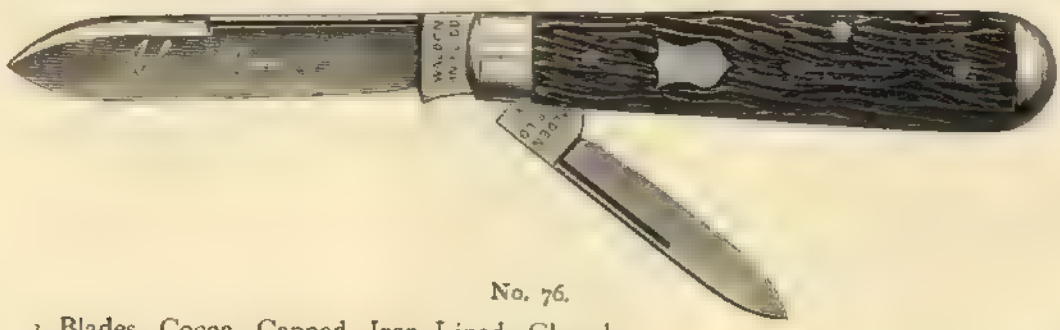
CUTS FULL SIZE

The Walden Knife Co.'s



No. 77.

No.		Per Dozen
77.	2 Blades, Ebony, Capped, Brass Lined, Crocus Finish,	$6.50

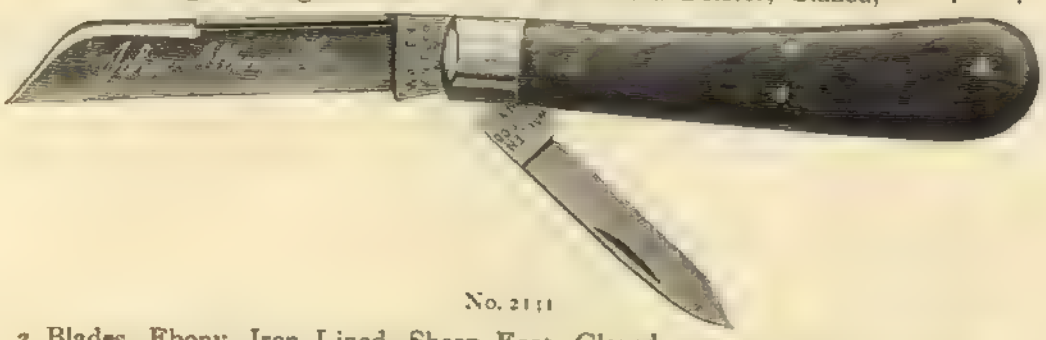


No. 76.

75.	2 Blades, Cocoa, Capped, Iron Lined, Glazed,	5.50
76.	2 Blades, Ebony, Capped, Iron Lined, Glazed,	5.50

No. 2241.

2241.	2 Blades, Buffalo, German Silver Shield and Bolster, Glazed.	6.50
2243.	2 Blades, English Stag, German Silver Shield and Bolster, Glazed,	7.00



No. 2141

2141.	2 Blades, Ebony, Iron Lined, Sheep Foot, Glazed,	4.75

No. 2041.

2040.	2 Blades, Cocoa, Brass Lined, German Silver Shield and Bolster,	5.50
2041.	2 Blades, Ebony, Brass Lined, German Silver Shield and Bolster,	5.50

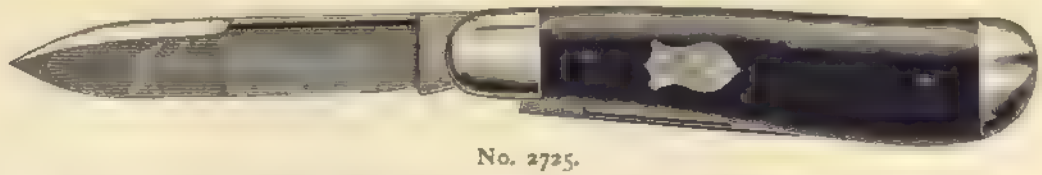
Pocket Knives.

CUTS FULL SIZE

The Walden Knife Co.'s.

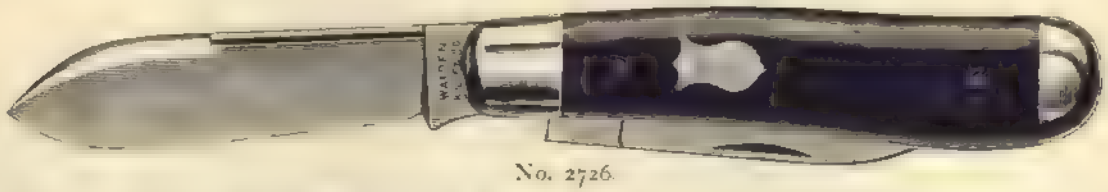
Nos. 2091 and 2191.

No.		Per Dozen
2190.	2 Blades, Cocoa, Iron Lined, Glazed,	$5.50
2191.	2 Blades, Ebony, Iron Lined, Glazed,	5.50
2091.	2 Blades, Ebony, Brass Lined, German Silver Shield and Bolster,	6.25



No. 2725.

2725.	2 Blades, Ebony, Brass Lined, German Silver Cap and Bolster, Crocus Finish,	7.25
2725C.	2 Blades, Cocoa, Clip Blade, German Silver Cap and Bolster, Crocus Finish,	7.25

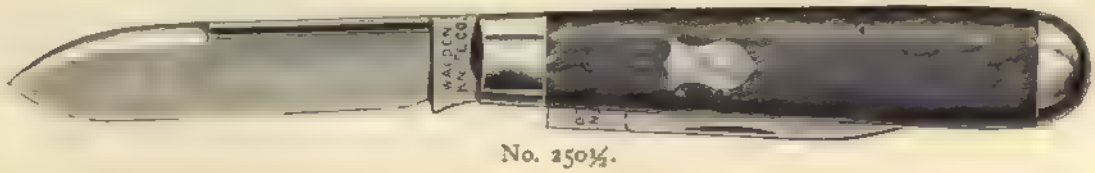


No. 2726.

2726.	2 Blades, Ebony, Brass Lined, German Silver Cap and Bolster, Crocus Finish,	8.25
2726¾.	2 Blades, Ebony, Clip Blade, German Silver Cap and Bolster, Crocus Finish,	8.25

No. 2033.

2031.	2 Blades, Ebony, Brass Lined, German Silver Cap and Bolster, Glazed,	7.25
2033.	2 Blades, American Stag, Brass Lined, German Silver Cap and Bolster, Glazed,	7.75



No. 250¾.

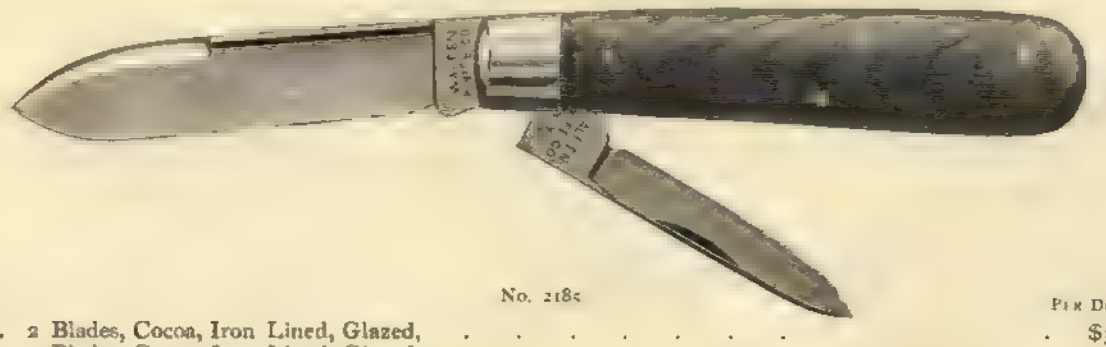
250¾.	2 Blades, Cocoa, Brass Lined, German Silver Cap and Bolster, Glazed,	7.00

Half Dozen in a Box.

Pocket Knives.

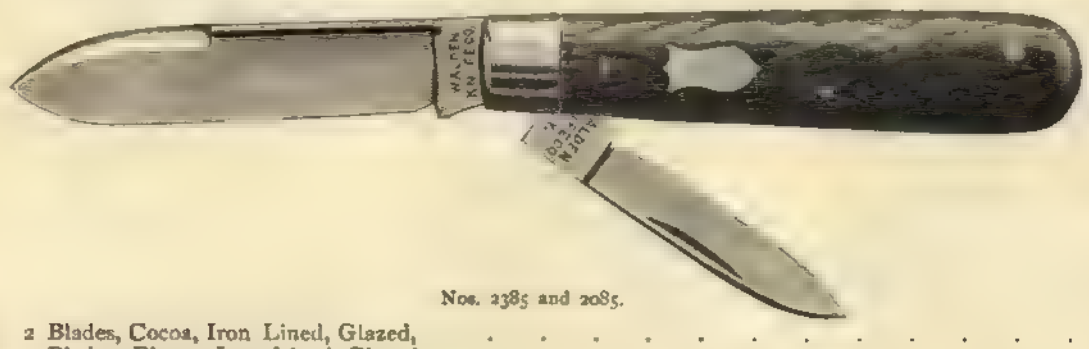
CUTS FULL SIZE

The Walden Knife Co.'s.



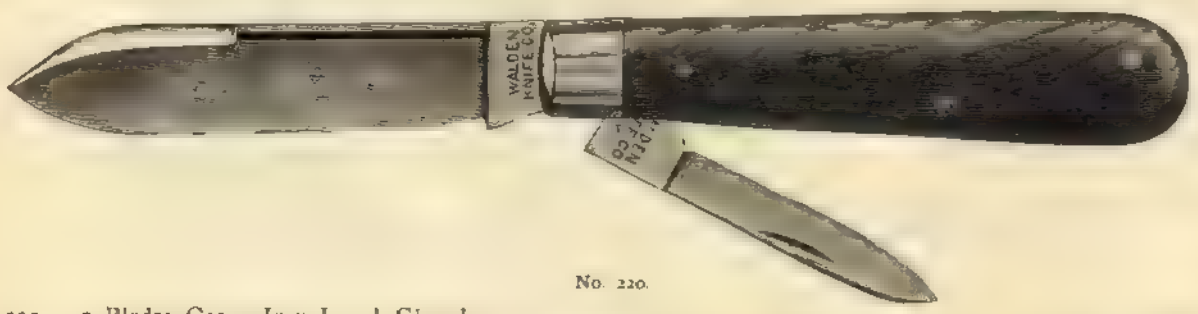
No. 2185

No.		Per Dozen
2380.	2 Blades, Cocoa, Iron Lined, Glazed,	$3.90
2185.	2 Blades, Cocoa, Iron Lined, Glazed,	4.25
2186.	2 Blades, Ebony, Iron Lined, Glazed,	4.25



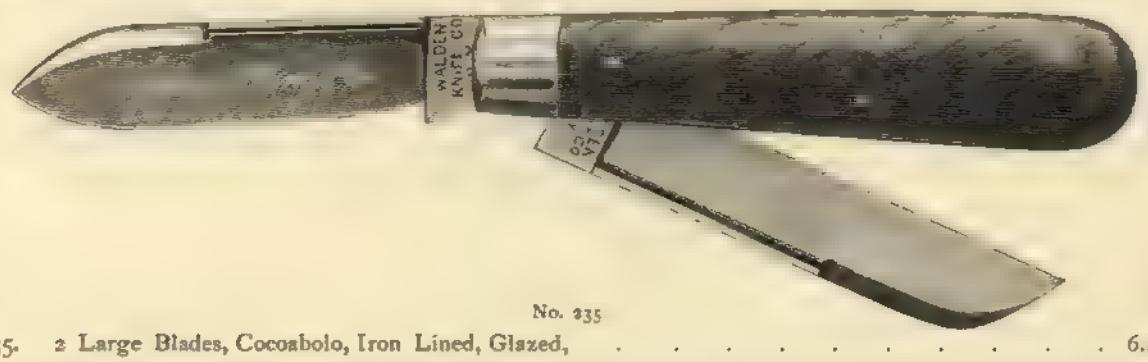
Nos. 2385 and 2085.

2385.	2 Blades, Cocoa, Iron Lined, Glazed,	4.75
2386.	2 Blades, Ebony, Iron Lined, Glazed,	4.75
2085.	2 Blades, Cocoa, Brass Lined, Glazed,	5.50
2086.	2 Blades, Ebony, Brass Lined, Glazed,	5.50



No. 220.

220.	2 Blades, Cocoa, Iron Lined, Glazed,	5.25
220½.	2 Blades, Cocoa, Iron Lined, Glazed, Clipped Blade,	5.25



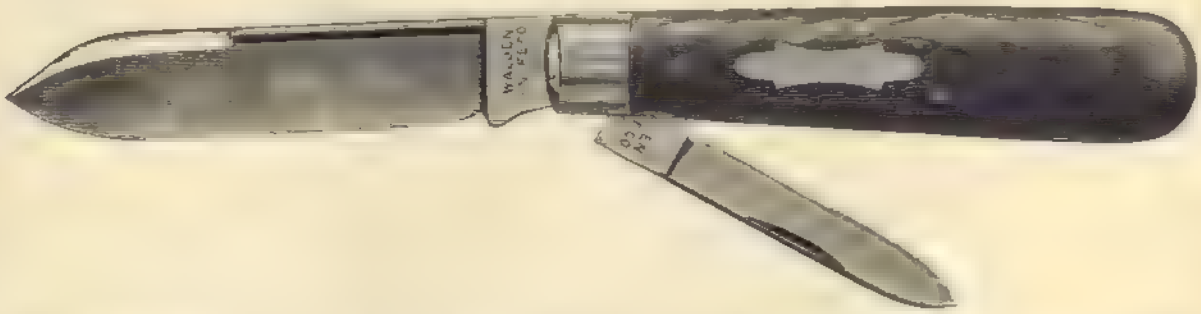
No. 235

235.	2 Large Blades, Cocoabolo, Iron Lined, Glazed,	6.25

Pocket Knives.

CUTS FULL SIZE

The Walden Knife Co.'s.



No. 2850.

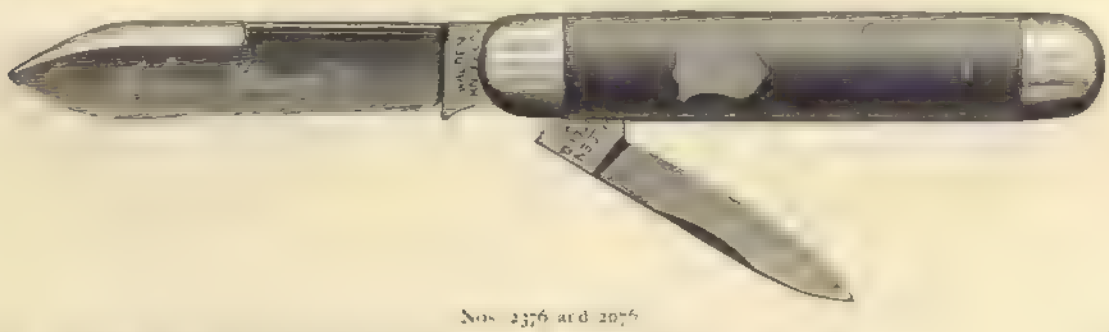
No.		Per Dozen
2850.	2 Blades, Cocobolo, Brass Lined, German Silver Shield and Bolster, Glazed,	$6.00
2851.	2 Blades, Ebony, Brass Lined, German Silver Shield and Bolster, Glazed,	6.00

No. 2695

2695.	2 Blades, Cocobolo, Brass Lined, German Silver Shield and Bolster, Glazed,	6.00
2696.	2 Blades, Ebony, Brass Lined, German Silver Shield and Bolster, Glazed,	6.00

No. 2295

2295.	2 Blades, Cocobolo, Brass Lined, German Silver Shield and Bolster, Glazed,	7.75
2296.	2 Blades, Ebony, Brass Lined, German Silver Shield and Bolster, Glazed,	7.75



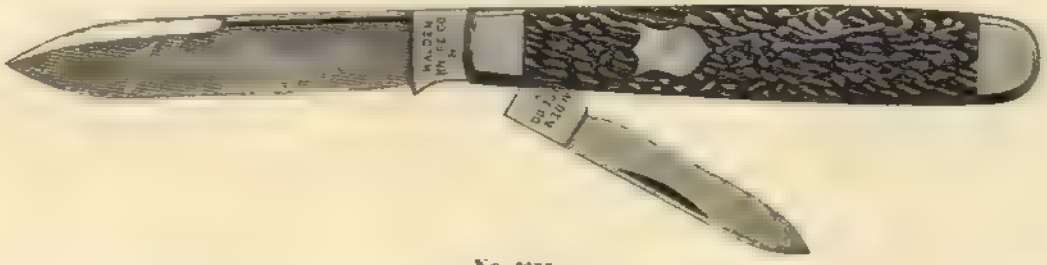
Nos. 2376 and 2076

2375.	2 Blades, Cocoa, Iron Lined, Polished Double Ends, Glazed,	6.00
2376.	2 Blades, Ebony, Iron Lined, Polished Double Ends, Glazed,	6.00
2075.	2 Blades, Cocobola, Brass Lined, German Silver Double Ends, Crocus Finish,	7.50
2076.	2 Blades, Ebony, Brass Lined, German Silver Double Ends, Crocus Finish,	7.50

Pocket Knives.

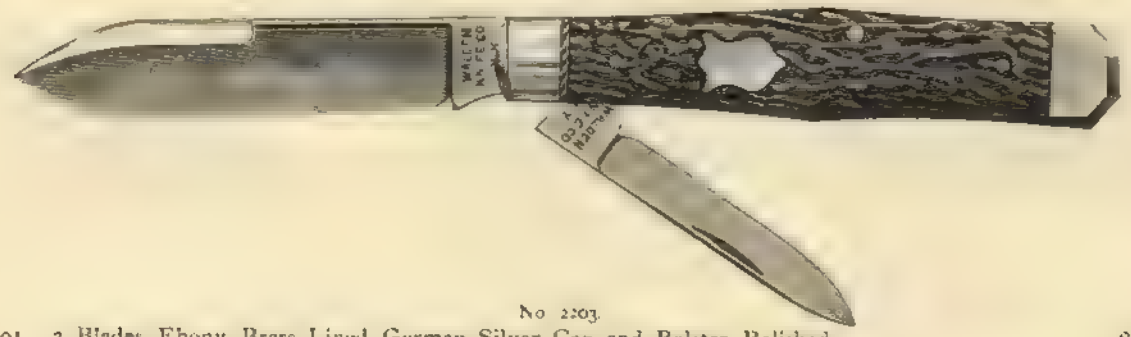
CUTS FULL SIZE

The Walden Knife Co.'s.



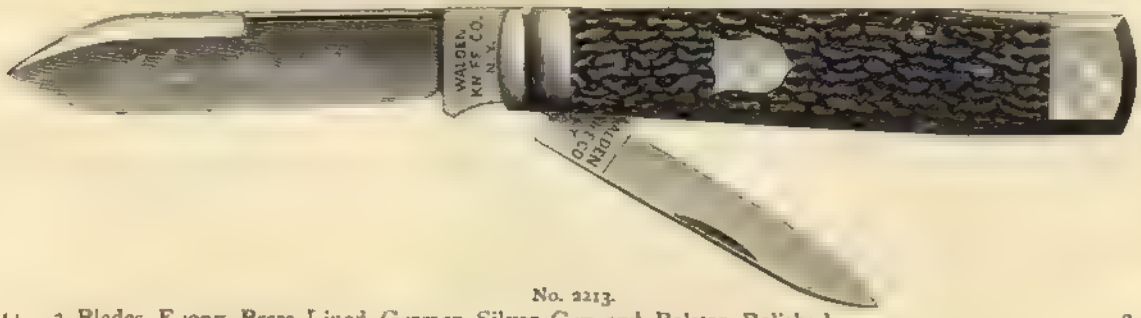
No. 2223.

No.		Per Dozen
2221.	2 Blades, Ebony, Brass Lined, German Silver Cap and Bolster, Polished,	$7.50
2223.	2 Blades, American Stag, Brass Lined, German Silver Cap and Bolster, Polished,	7.75



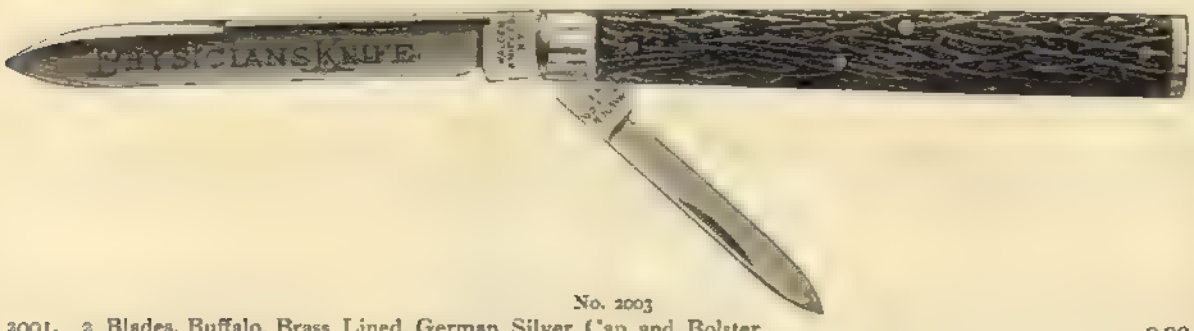
No 2203.

2201.	2 Blades, Ebony, Brass Lined, German Silver Cap and Bolster, Polished,	8.75
2203.	2 Blades, American Stag, Brass Lined, German Silver Cap and Bolster, Polished,	9.35
2204.	2 Blades, Pearl, Brass Lined. German Silver Cap and Bolster, Polished,	17.00



No. 2213.

2211.	2 Blades, Ebony, Brass Lined, German Silver Cap and Bolster, Polished,	8.00
2213.	2 Blades, English Stag, Brass Lined, German Silver Cap and Bolster, Polished,	9.00



No. 2003

2001.	2 Blades, Buffalo, Brass Lined, German Silver Cap and Bolster,	9.00
2003.	2 Blades, American Stag, Brass Lined, German Silver Cap and Bolster,	9.00

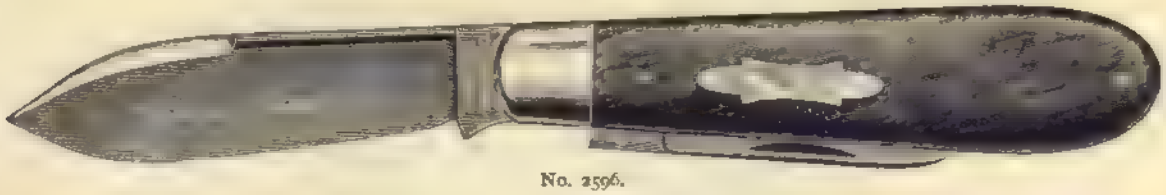
Pocket Knives.

CUTS FULL SIZE

The Walden Knife Co.'s.

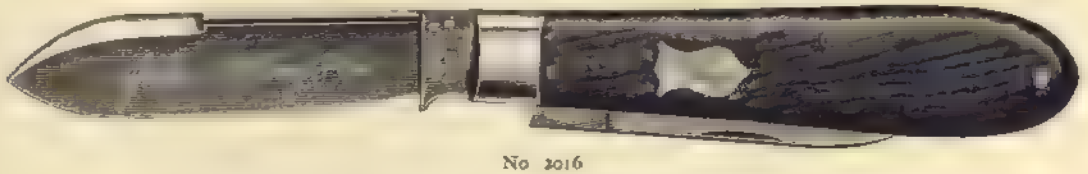
Nos. 2461 and 2216.

No.		Per Dozen
2460.	2 Blade, Cocobolo, Iron Lined, Glazed,	$ 5.10
2461.	2 Blade, Ebony, Iron Lined, Glazed,	5.10
2463.	2 Blade, American Stag, Iron Lined, Glazed,	5.60
2215.	2 Blade, Cocobolo, Brass Lined, Glazed,	6.60
2216.	2 Blade, Ebony, Brass Lined, Glazed,	6.60



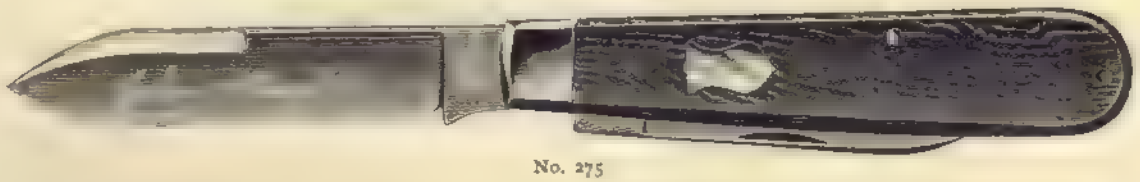
No. 2596.

2595.	2 Blade, Cocobolo, Iron Lined, Glazed,	6.25
2596.	2 Blade, Ebony, Iron Lined, Glazed,	6.25
2598.	2 Blade, American Stag, Iron Lined, Glazed,	6.75



No 2016

2015.	2 Blade, Cocobolo, Brass Lined, Glazed,	6 00
2016.	2 Blade, Ebony, Brass Lined, Glazed,	6 00



No. 275

275.	2 Blades, Cocobolo, Thick Back, Brass Lined, Crocus Finish,	8.00

No. D26.

D 26.	2 Blades, Cocobolo, Brass Lined, German Silver Cap and Bolster, Crocus Finish,	8.50

Pen and Pocket Knives.

CUTS FULL SIZE

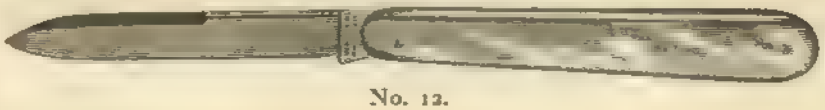
The Walden Knife Co.'s.

No. 175.

No.		Per Dozen
175.	1 Blade, Pen, Buffalo, Brass Lined, Glazed,	$2.75
178.	1 Blade, Pen, Pearl, Brass Lined, Glazed,	4.00

No. 180.

180.	1 Blade, Pen, Buffalo, Brass Lined, Crocus Finish,	4.00
183.	1 Blade, Pen, Pearl, Brass Lined, Crocus Finish,	6.50



No. 12.

12.	1 Blade, Pen, Pearl, Brass Lined, Glazed,	7 00

No. 023.

023.	2 Blades, Pen, Pearl, Brass Lined, Crocus Finish,	7.00

No. 0233.

0230.	2 Blades, Buffalo, Brass Lined, Crocus Finish,	6.50
0231.	2 Blades, Ivory, Brass Lined, Crocus Finish,	7.50
0233.	2 Blades, Pearl, Brass Lined, Crocus Finish,	12.50

No. 0291.

0290.	2 Blades, Ivory, Brass Lined, Glazed,	6.00
0291.	2 Blades, American Stag, Brass Lined, Glazed,	5.50

Pocket Knives.

CUTS FULL SIZE

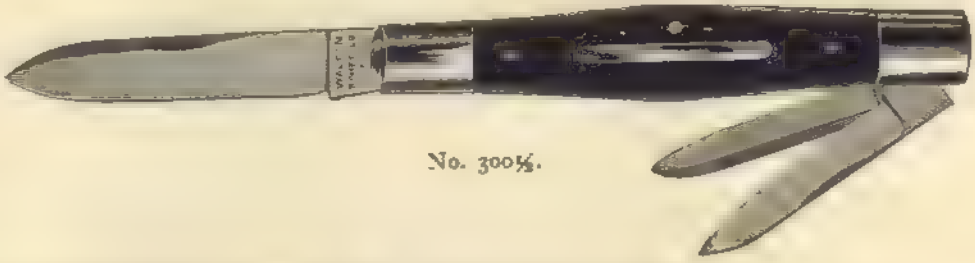
The Walden Knife Co.'s.

No. 0206.

No.		Per Doz.
0206.	2 Blades, Ivory, Brass Lined, German Silver Bolsters,	$ 6.00
0209.	2 Blades, Pearl, Brass Lined, German Silver Bolsters,	9.00

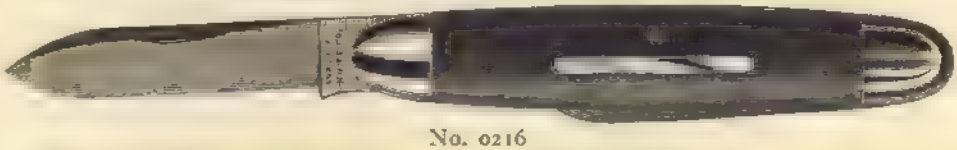
No. 0211.

0211.	2 Blades, Shell, Brass Lined, German Silver Bolsters,	9.50
0212.	2 Blades, Pearl, Brass Lined, German Silver Bolstesr,	9.50



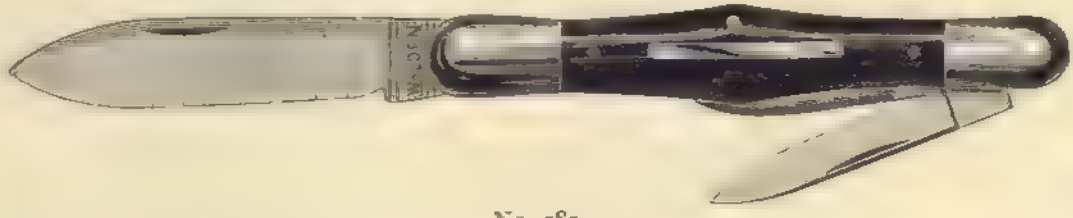
No. 300½.

300½.	3 Blades, Buffalo, Brass Lined, German Silver Bolsters,	11 00
303.	3 Blades, Pearl, Brass Lined, German Silver Bolsters,	15.00



No. 0216

0215.	2 Blades, Cocobolo, Brass Lined, German Silver Bolsters,	6.50
0216.	2 Blades, Ebony, Brass Lined, German Silver Bolsters,	6.50
316.	3 Blades, Ebony, Brass Lined, German Silver Bolsters,	10.00



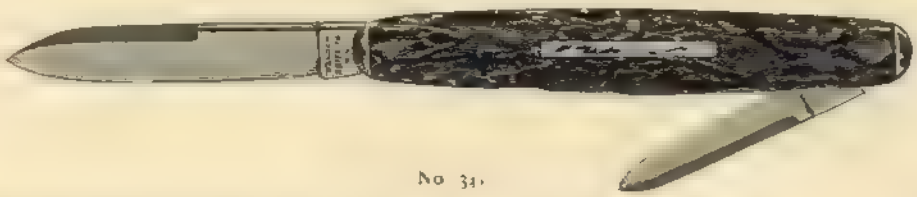
No. 385.

385.	3 Blades, Buffalo, Brass Lined, German Silver Bolsters,	10.50
387.	3 Blades, English Stag, Brass Lined, German Silver Bolsters.	10.75
388.	3 Blades, Pearl, Brass Lined, German Silver Bolsters,	14.00

Pocket Knives.

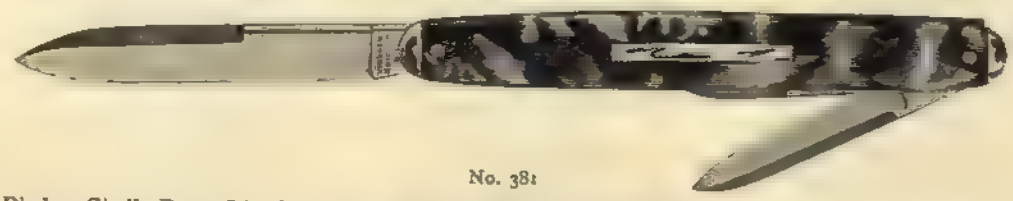
CUTS FULL SIZE

The Walden Knife Co.'s.



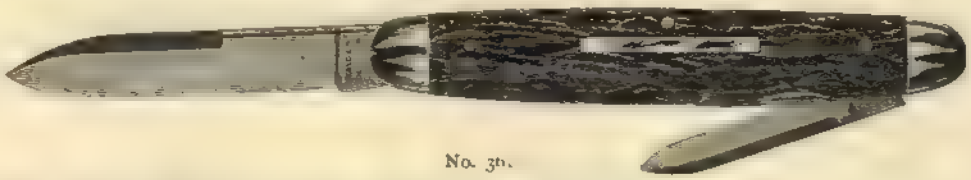
No. 341.

No.		Per Dozen
341.	3 Blades, English Stag, Brass Lined, German Silver Tips, Crocus Finish,	$14.00
343.	3 Blades, Pearl, Brass Lined, German Silver Tips, Crocus Finish,	18.00



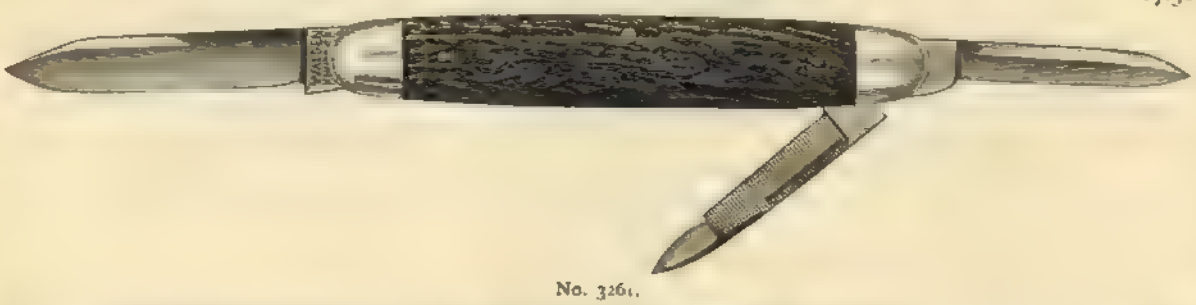
No. 381.

381.	3 Blades, Shell, Brass Lined, German Silver Tips, Crocus Finish.	20.00
383.	3 Blades, Pearl, Brass Lined, German Silver Tips, Crocus Finish.	20.00



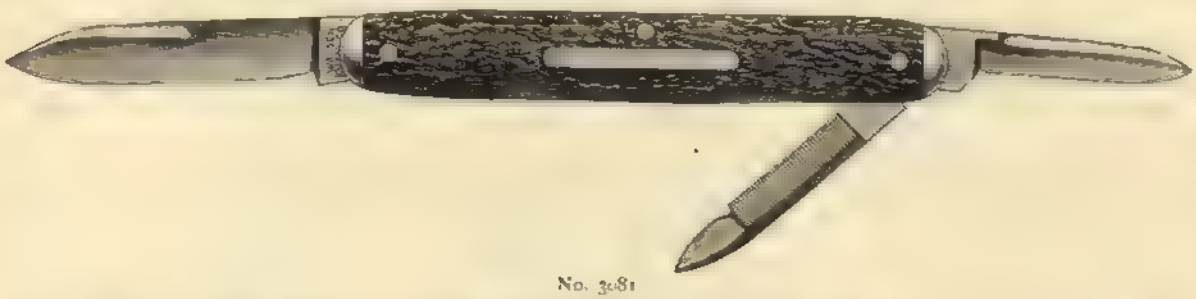
No. 361.

361.	3 Blades, English Stag, Brass Lined, German Silver Bolsters, Crocus Finish,	13.50
363.	3 Blades, Pearl, Brass Lined, German Silver Bolsters, Crocus Finish,	17.50



No. 3261.

3261.	3 Blades, English Stag, Brass Lined, German Silver Bolsters, Crocus Finish,	12.00
3263.	3 Blades, Pearl, Brass Lined, German Silver Bolsters, Crocus Finish,	16.00



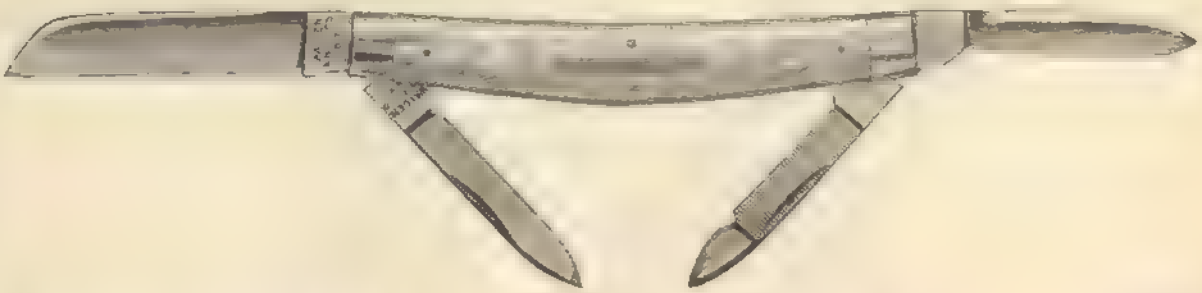
No. 3081.

3081.	3 Blades, English Stag, Brass Lined, German Silver Tips, Crocus Finish,	14.50
3083.	3 Blades, Pearl, Brass Lined, German Silver Tips, Crocus Finish,	20.00

Pocket Knives.

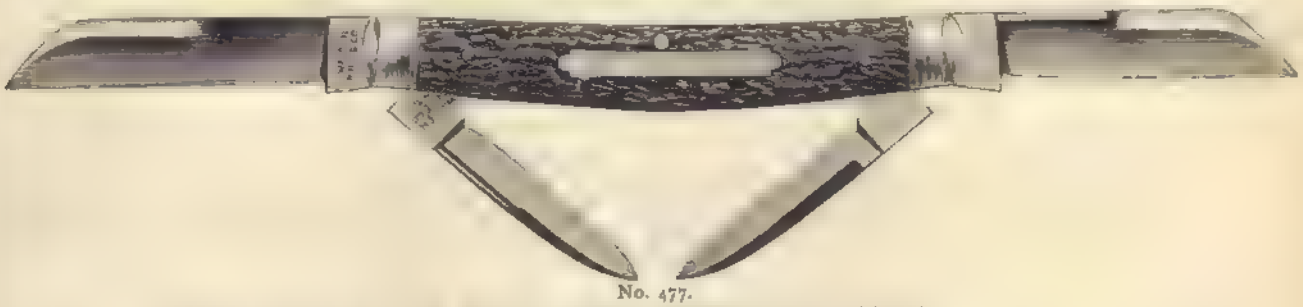
CUTS FULL SIZE

The Walden Knife Co.'s.



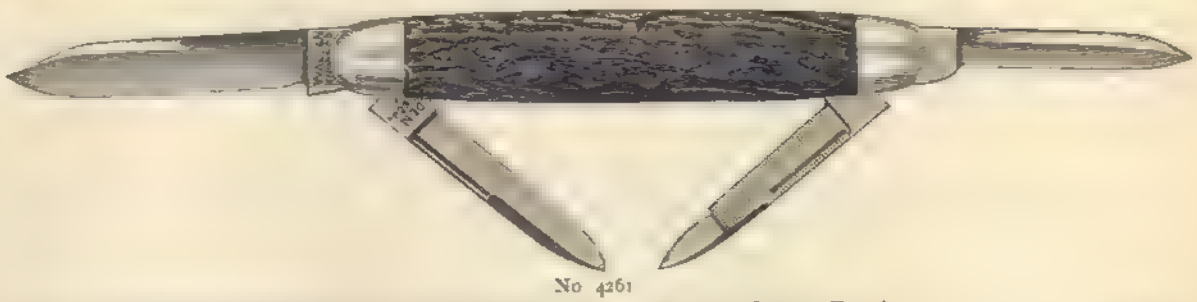
No. 429.

No.		Per Dozen
427.	4 Blades, Congress, English Stag, Brass Lined, German Silver Bolsters,	$12.00
429.	4 Blades, Congress, Pearl, Brass Lined, German Silver Bolsters,	17.00



No. 477.

477.	4 Blades, Congress, English Stag, Iron Lined, Polished Bolsters, Glazed,	12.00
5791/2.	4 Blades, Congress, Pearl, Brass Lined, German Silver Bolsters, Glazed,	24.00



No. 4261

4261.	4 Blades, English Stag, Brass Lined, German Silver Bolsters, Crocus Finish,	13.00
4263.	4 Blades, Pearl, Brass Lined, German Silver Bolsters, Crocus Finish,	17.00

No. 4081.

4081.	4 Blades, English Stag, Brass Lined, German Silver Tips, Crocus Finish,	16.00
4083.	4 Blades, Pearl, Brass Lined, German Silver Tips, Crocus Finish,	21.00

Pocket Knives.

CUTS FULL SIZE

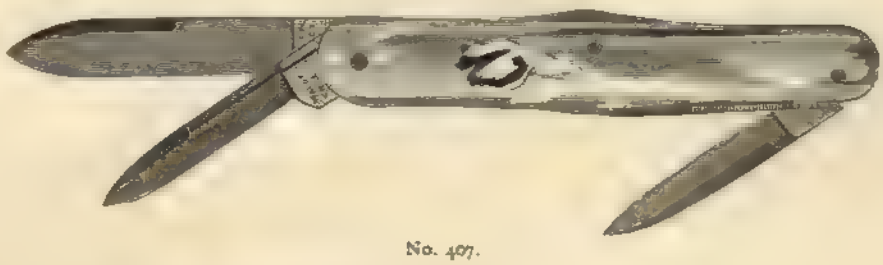
The Walden Knife Co.'s.

No. 3488.

No.		Per Dozen
3485.	3 Blades, Black Buffalo, Brass Lined, Crocus Finish,	$11.00
3486.	3 Blades, English Stag, Brass Lined, Crocus Finish,	11.25
3488.	3 Blades, Pearl, Brass Lined, Crocus Finish.	13.50

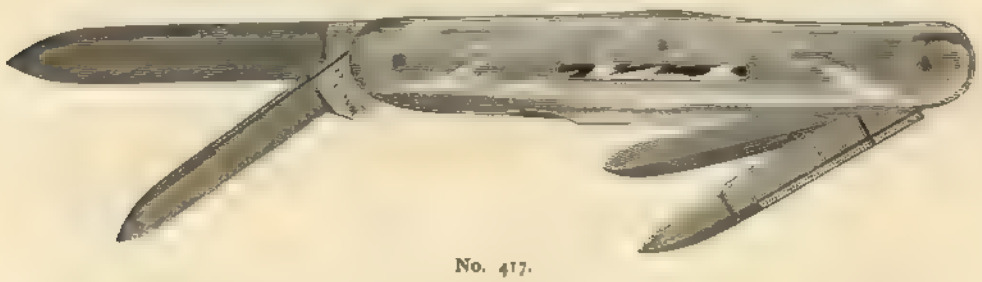
No. 4489E.

4489E.	4 Blades, Pearl, Silver Mountings, Hand Engraved,	24.00



No. 407.

407.	4 Blades, Pearl, Solid Silver Back, Crocus Finish.	26.50



No. 417.

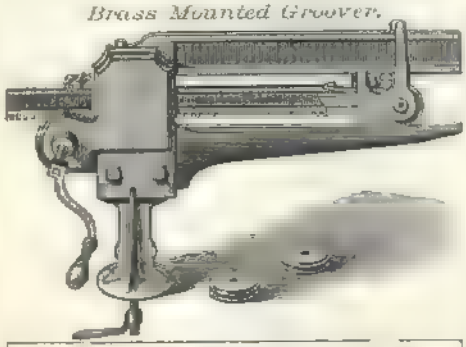
417.	4 Blades, Pearl, Solid Silver Back, Crocus Finish,	30.00

Tinners' Tools and Machines.

Encased Grooving Machines.

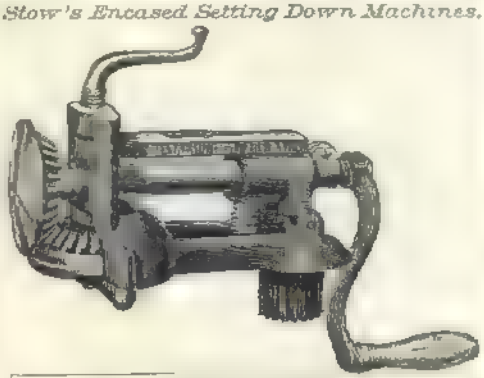
NO.	DESCRIPTION.	
1	For Heavy Work, 20 in., with Rotary Standard,	$13 50
	Extra Standards,	75
	Extra Rollers,	75

Brass Mounted Groover.



NO.	DESCRIPTION	EACH
1	For Heavy Work, 20 in., with Standard,	$13 50
	Extra Standards	75
	Extra Rollers,	75

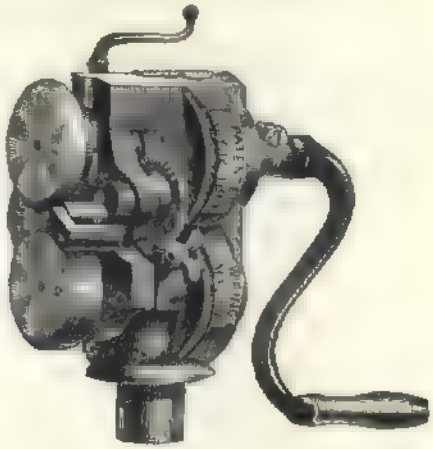
Stow's Encased Setting Down Machines.



DESCRIPTION	EACH
With Standard,	$8 75
Without "	9 00

Stow's Encased Wiring Machines.

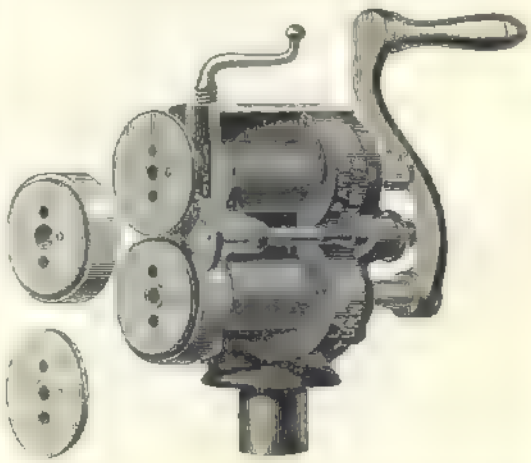
With Adjustable Boxes and Duplicate Parts.



DESCRIPTION.	EACH.
With Standard,	$14 00
Without "	13 25

Stow's Encased Turning Machines.

With Extra Faces, Adjustable Boxes and Duplicate Parts.

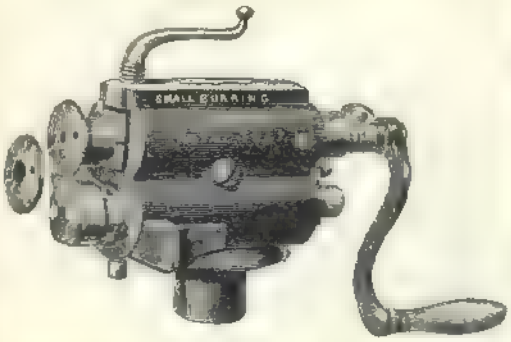


	WITH STANDARD.	WITHOUT STANDARD.
Large, Each,	$11 50	10 75
Small, "	11 25	10 50
Extra Faces, Each,	1 00	1 00

Tinners' Tools and Machines.

Stow's Encased Barring Machines

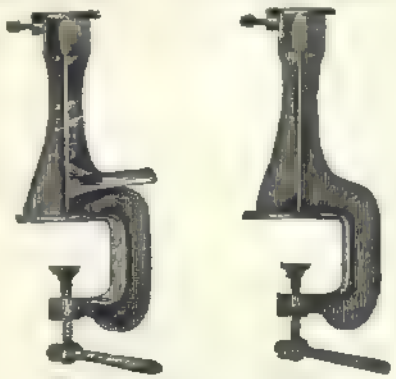
With Extra Upper Face.



	WITH STANDARD.	WITHOUT STANDARD.
Large, Each,	$10 50	9 75
Small, "	10 00	9 25

Stow's Improved Machine Standards.

Encased Machines are all Packed with these Standards.



DESCRIPTION.	EACH
Improved Machine Standards,	$1 00

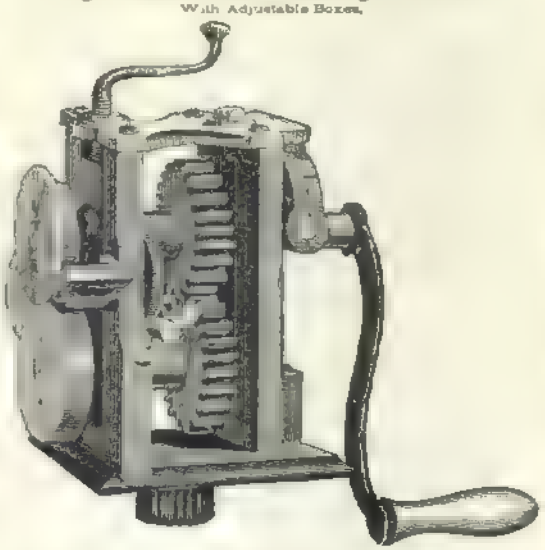
These Standards are so made as to be used on Machines varying in thickness from one to three and one-half inches. The necessity of cutting holes in the bench is obviated, and the Tinner is enabled to set a Machine in any part of his shop most convenient to his work. The WRENCH is always attached to the Standard. These Standards are also adapted to Raymond's Machines.

Full Set of Stow's Encased Machines

DESCRIPTION.	EACH
Stow's Adjustable Bar Folder, No 62, 20 inch,	$80 00
Stow's Encased Grooving Machine, No. 1, 20 inch, with Standard,	13 50
Stow's Encased Wiring Machine, with Standard,	14 00
" Setting Down Machine, " "	9 75
" Large Turning " " "	11 50
" Small " " "	11 25
" Large Barring " " "	13 50
" Small " " "	13 00
Full Set of Encased Machines, with Standards,	$110 50
" " " " without "	100 00

Raymond's Patent Wiring Machines.

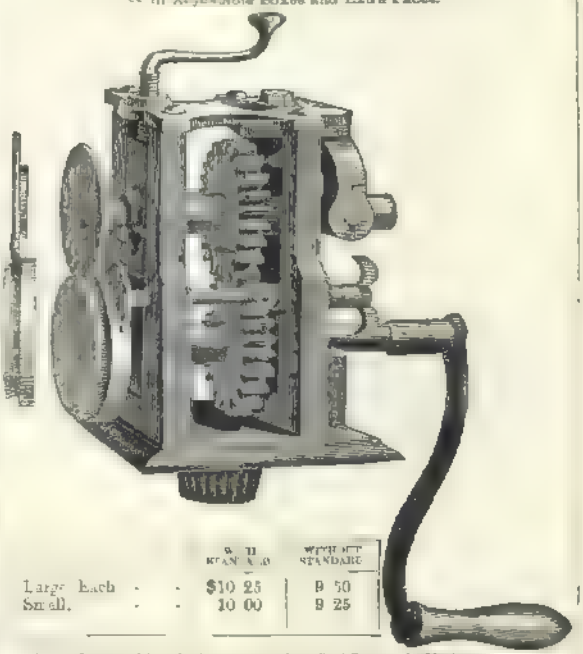
With Adjustable Boxes.



DESCRIPTION.	EACH
With Standard,	$12 50
Without "	11 25

Raymond's Patent Turning Machines.

With Adjustable Boxes and Extra Faces.



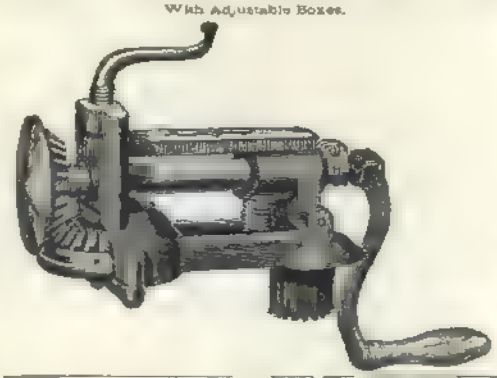
	WITH STANDARD.	WITHOUT STANDARD.
Large, Each	$10 25	9 50
Small,	10 00	9 25

Stow's Improved Standards are adapted to all of Raymond's Machines.

Tinners' Tools and Machines.

Raymond's Patent Setting Down Machines

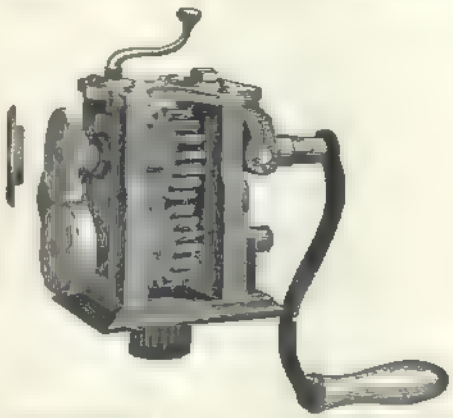
With Adjustable Boxes.



DESCRIPTION.	EACH
With Standard,	$9 75
Without Standard,	7 00

Raymond's Patent Burring Machines.

With Extra Upper Face



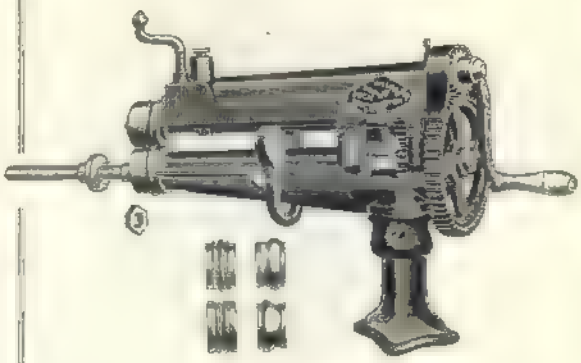
	WITH STANDARD.	WITHOUT STANDARD.
Large, Each	$9 00	$8 25
Small, "	8 50	7 75

Full Set of Raymond's Machines.

DESCRIPTION.	EACH.
Stow's No. 0, 20 in. Folder,	$30 00
" No. 1, 20 in. Brass Mounted Groover,	18 50
Raymond's Wiring Machine, with Standard,	12 00
" Setting Down Machine, with"	9 75
" Large Turning " "	10 25
" Small " "	10 00
" Large Burring " "	9 00
" Small " "	8 50
Full Set of Machines as above with Standards,	$108 00

Stow's Improved Stand Arms are adapted to all Raymond's Machines.

Improved Beading Machines.



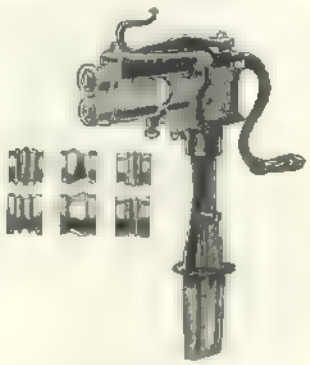
No. 1, with Standard

NO.	DESCRIPTION.	EACH.
1	13 in., with Three Pairs Rollers and Rotary Standard,	$32 25
2	10 in., with Three Pairs Rollers and Rotary Standard,	31 25
3	7½ in., with Three Pairs Rollers and Rotary Standard,	26 25

The Impressions given are 1⅛ in., 1 in., ⅞ in. ½ round, O. G. Coffee Pot, Cullender, Elbow Astragal, and any form required.

Stow's Patent Beading Machines.

With Adjustable Boxes and Duplicate Parts.



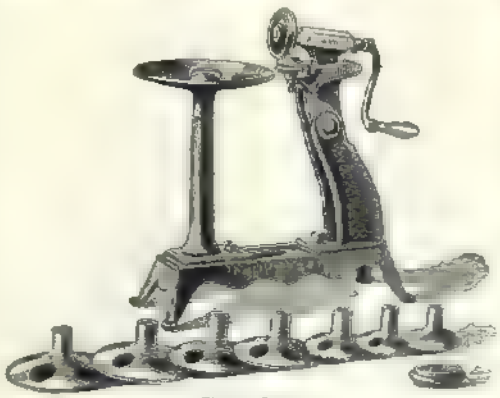
No. 4, with Standard.

NO.	DESCRIPTION.	EACH.
4	Stow's Patent, 6 in., with Four Pairs of Rollers and Rotary Standard,	$19 75
5	Stow's Patent 4 in., for Tin, with Five Pairs of Rollers and Rotary Standard,	16 75

The four pairs of Rollers accompanying the No. 4 Beader, are the Single Bead, O. G. Bead, Small Triple and Large Triple Bead.

Tinners' Tools and Machines.

Stow's Patent Double Seaming Machines.



Eleven Discs.

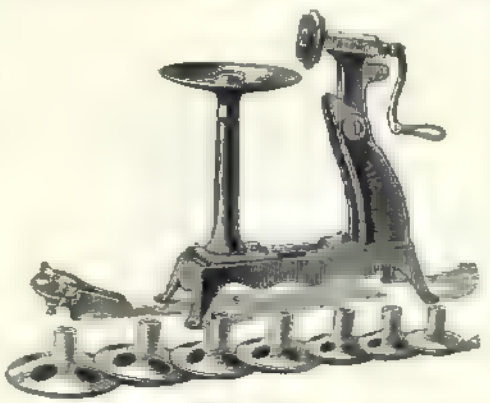
NO.	DESCRIPTION.	EACH.
10	Without Setting Down Attachmen ,	$24 00
	Extra Heads,	2 50

This Machine is more readily adjusted to double seam vessels of different sizes than any other manufactured. It is also the most expeditious in its operation.

It gets more favorably in passing seams or locks, because the pressure to set down a double seam is obtained by means of a foot lever, which yields as the rolls pass the seam.

It is well adapted to Wash Boilers, Pans, &c., and will do any work that can be done on similar Machines.

Stow's Patent Double Seaming Machines.



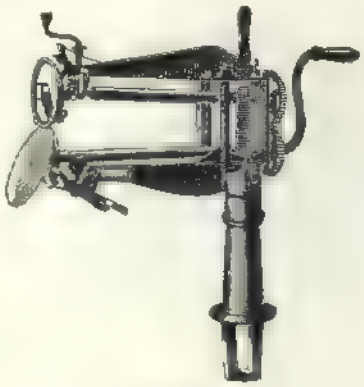
Eleven Discs.

NO.	DESCRIPTION.	EACH.
6	With Setting Down Attachment,	$28 00
	Extra Discs,	1 25
	Extra Heads,	2 50

The Setting Down attached to this Machine will set down any work that can be Double Seamed on the Machine. It works rapidly and accurately, and an inexperienced workman can use it without difficulty.

It is also intended to be used on work that does not require to be Double Seamed, and to a large extent will take the place of the Setting Down Tools in the set of Machines.

Moore's Patent Double Seaming Machines.



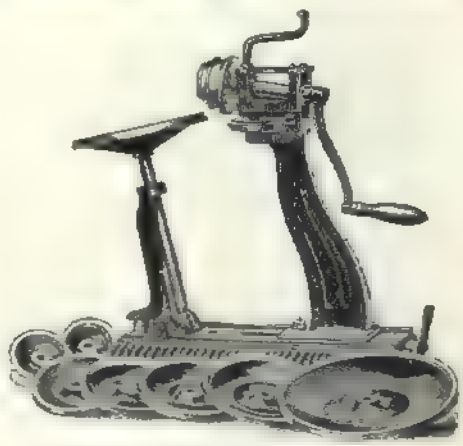
With Standard.

NO.	DESCRIPTION.	EACH.
8	Moore's Patent, 13 in., for Common Work,	$19 00
	Extra Faces,	2 50

This Machine, [illegible] by the improvement secured by recent letters patent [illegible] offer at a less price than any other Double Seaming Machine [illegible] for general use, we believe will give better satisfaction than the higher priced Machines.

We feel [illegible] recommending it as a superior article, and the best suited to the wants of ordinary Tinsmiths who desire a Machine adapted to different kinds of work.

Olmsted's Double Seaming Machines.



Eight Discs, With Setting Down and Deflector.

NO.	DESCRIPTION.	EACH.
1	With Setting Down Attachment,	$30 00
	Extra Discs,	2 00

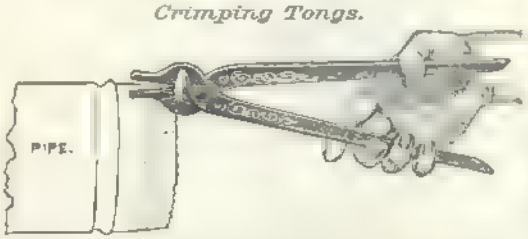
This Machine is 15 inches high, weighs 100 pounds, and is made with brass boxes and cap. It is adapted for straight or flaring work, and may be used on light or heavy tin.

Tinners' Tools and Machines.

Hulbert's Patent Double Seaming Machines.

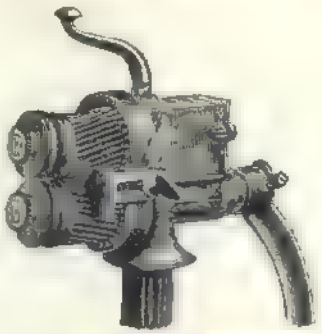
NO.	DESCRIPTION.	EACH
1	With Deflector, Fourteen Discs,	$30 00
2	Without Deflector, Fourteen Discs,	25 00

Crimping Tongs.

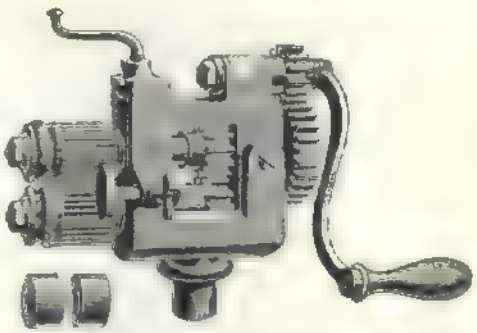


DESCRIPTION.	PER PAIR
Packham's Patent Pipe and Metal Crimping Tongs	$1 25

Crimping Machines.



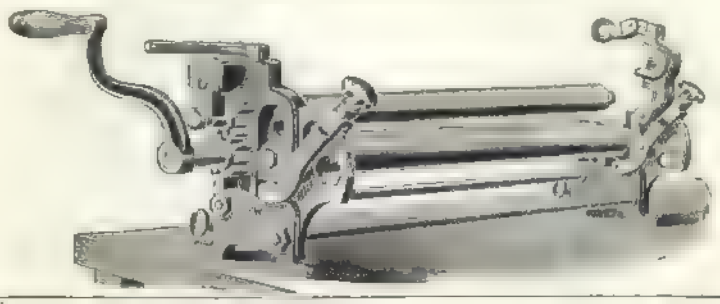
DESCRIPTION	EACH.
Packham's, for Stove and [illegible] Pipe,	$16 00



NO.	DESCRIPTION.	EACH
7	Stove Pipe Crimper and Beader, complete with Standard,	$12 00

This Machine is designed to facilitate the making and putting together of metal pipe of different diameters. It crimps and turns in the edges of stove and [illegible] pipe, so that they may be easily put together easily. It is so provided with [illegible] that the [illegible] same time it is corrugated. It has [illegible] When crimping only is desired, substitute the Coilers in place of the Corrugating Rolls.

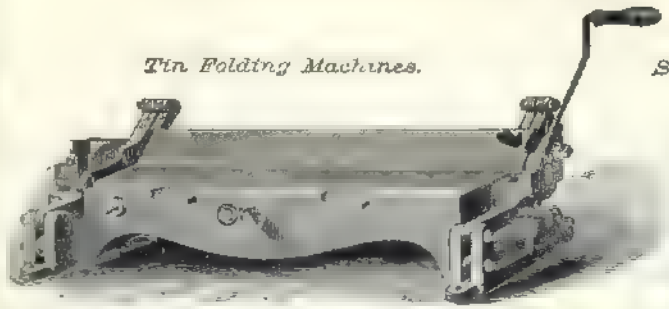
Stove Pipe Forming Machines.



NO.	DESCRIPTION	EACH
7	Grannis' Patent Slip Roll, 2 inch Rolls, 30 inches long,	$20 00

Tinners' Tools and Machines.

Tin Folding Machines.

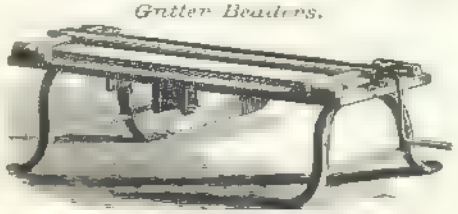


No.	DESCRIPTION.	EACH.
152	Stow's Patent Adjustable, 20½ inches,	$30 00
54	O. W. Stow's Patent Adjustable, 30 inch,	40 00

Gutter Beaders and Rods.

NO.	DESCRIPTION.	EACH.
11	Iron Bottom, with Enclosed Rod, 20 in. Long, ⅛, 1/16 and ¼ in Rod,	$4 00
C.	Iron Bottom, with Enclosed Rod, 30 in. [illegible]	[illegible]
	Gutter [illegible] Steel [illegible], ⅛ and ¼ in Diameter, [illegible] for No. 11 Beaders,	2 00
	Gutter Rods, Steel, ⅛, ¼ and ⅜ in. Diameter, 30 in. Long, for No. 02 Beaders,	1 00

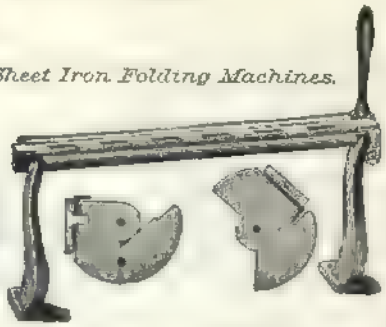
Gutter Beaders.



NO.	DESCRIPTION	EACH
[illegible]	Stow's [illegible], Cast Steel Rod, 20 in. Long, [illegible]	$5 50

NO.	DESCRIPTION	EACH
1	Stow's Patent Cast Steel Rod [illegible] Long by ⅛, ¼ and ⅜ Inch Diameter,	$ 5 [illegible]
0	Stow's Patent, Cast Steel Rod 30 inches Long by ⅛, ¼ and ⅜ inch Diameter	12 00

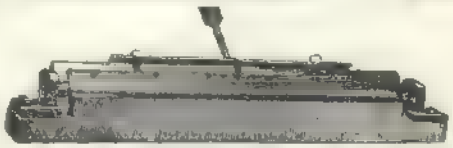
Sheet Iron Folding Machines.



NO.	DESCRIPTION.	EACH.
1	Wright's Patent, 30 inch,	$12 00

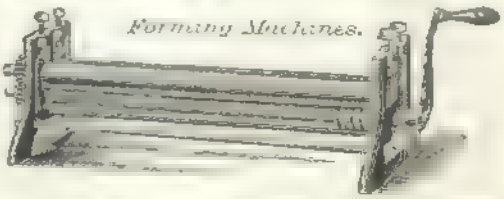
Will Turn Locks of Different Widths of Any Length of Sheet Metal.

NO.	DESCRIPTION.	EACH.
12	Wright's Improved, 30 inch,	$10 00



NO.	DESCRIPTION	EACH
1	[illegible] Seam Leveler, 30 inch,	$10 00

Forming Machines.



NO.	DESCRIPTION.	EACH
1	Stove Pipe Former, 2 in. Rolls, 30 in. Long,	$19 00
2	Stove Pipe Former, 1¼ in. Rolls, 30 in Long,	16 00

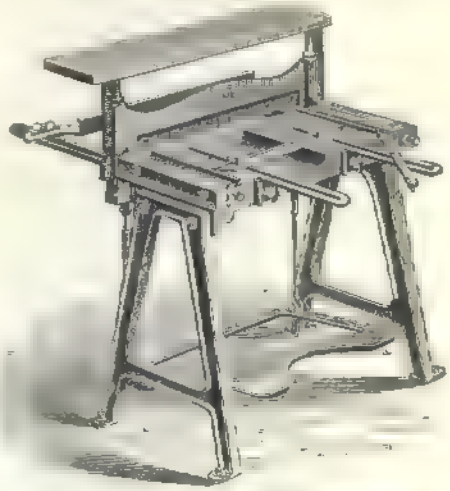
Tinners' Tools and Machines.

Stow's Improved Squaring Shears.

For Cutting Sheet Metal.

NO.	DESCRIPTION	EACH
129	Stow's Pattern, with Frame for Tin, Cuts 22 inches,	$35 00
130	Stow's Pattern, with Frame for Sheet Iron, Cuts 30 inches,	50 00

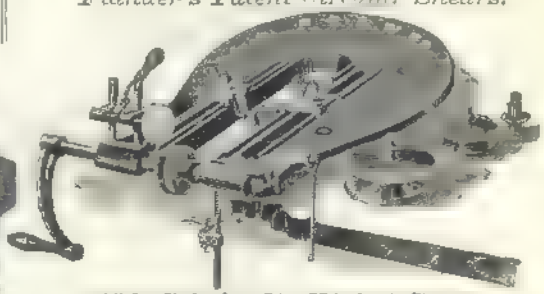
Hall's Acme Squaring Shears.



For Cutting Sheet Metal.

NO	DESCRIPTION	EACH
2	Acme with Frame, Cuts 30 inches	$50 00

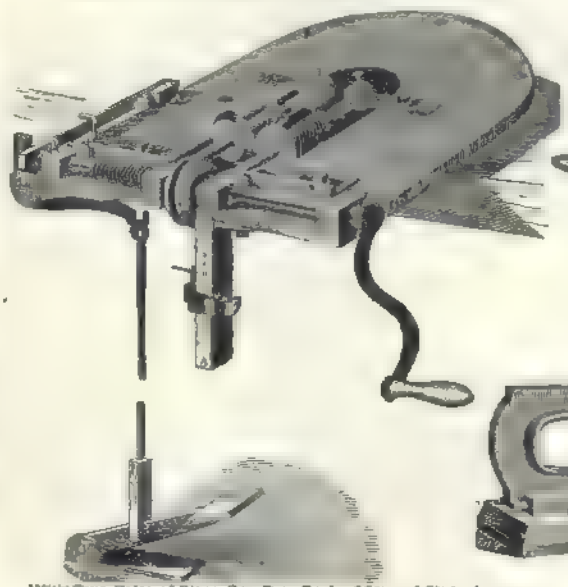
Flander's Patent Circular Shears.



Will Cut Circles from 2¼ to 23 inches in Diameter.

1	For Tin, with 4 Pairs of Discs, one each, 1½, 3, 4½, and 7½ inches in Diameter, 1 Pair of Cutters, without Edge Turner,	$25 00
1	With Edge Turner, as shown above,	30 00

Newton's Patent Circular Shears.

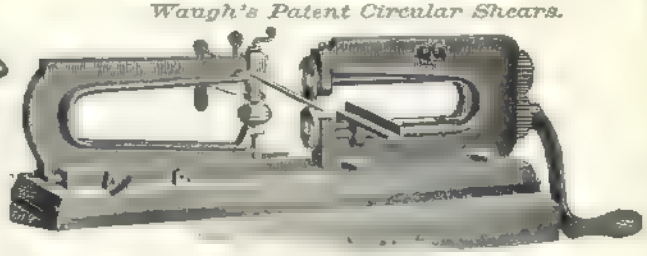


With Two Pairs of Discs, One Pair Each of 2½ and 5½ inches in Diameter.

DESCRIPTION	EACH.
Newton's Circular Shears,	$22 00

Will cut Circles from 2 to 14 inches in Diameter.

Waugh's Patent Circular Shears.



Will Cut Circle 14 inches in Diameter.

NO	DESCRIPTION.	EACH
1	For Tin, with 1 Pair Discs and Cutters,	$33 00

Tinners' Tools and Machines.

Hand Shears or Snips.

P. S. & W. Co.'s Wrought

No.	6½	7	8	9	10	11
Cut, Inches,	4½	4	3½	3	2½	2
Per Pair,	$3 00	2 50	2 00	1 50	1 40	1 25

No. 30, Cast Iron, 3 in. Cut, - - Per Pair, 30 00

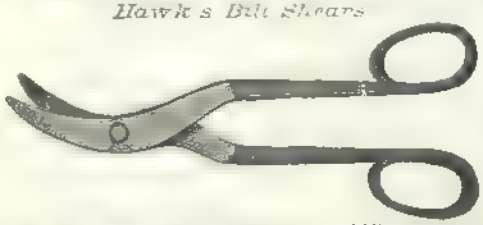
NO.	DESCRIPTION	PER DOZEN
14	Heinisch's Cast Steel Lard, 14 inch. Cut illustrates these Shears.	$3 00

HARDWARE IN A BOX.

Berridge's Double Cutting Hand Shears.

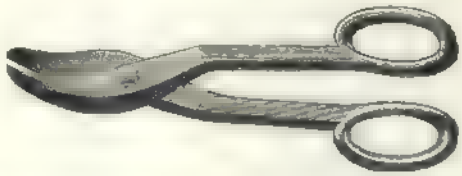
NO.	DESCRIPTION.	PER PAIR
2	Berridge's Patent Double Cutter,	$4 00

Hawk's Bill Shears



NO.	DESCRIPTION	PER PAIR
15	Pointed Snips, -	$1 00

Circular Hand Shears.



No.	8	9
Cut, Inches,	3½	3½
Per Pair,	$1 00	2 50

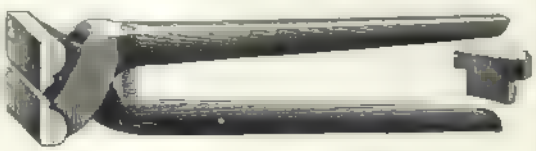
Bench Shears.

No.	10	9	1	2	3	4	5	6
Cut Inches,	12	10½	9	8½	8½	8	7	6
Per Pair,	$13 50	12 00	8 00	7 00	6 00	5 00	4 00	3 50

Cutting Nippers.

No.	1	2	3	4	5
Inches,	12	11	10	9	8 in.
Per Pair,	$2 25	2 00	1 50	1 40	1 00

Patent Cutting Nippers.

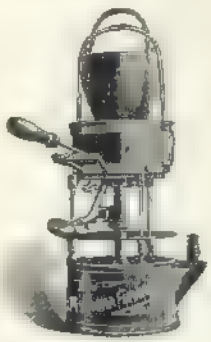


No.	1	2	3	4
Inches,	12	11	10	8
Per Pair,	$2 25	2 00	1 75	1 50

Extra Jaws, Per Pair $0 50

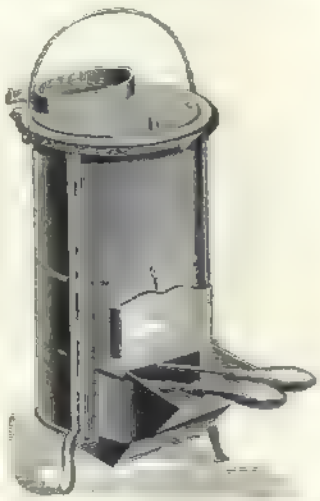
Tinners' Tools and Machines.

Gasoline Fire Pots.



DESCRIPTION.	EACH
Aurora, Gasoline,	$7 00
Extra Bulbs, with Tube, for above,	1 00

Charcoal Fire Pots.



DESCRIPTION.	EACH.
Buttles' Patent, Charcoal,	$4 00

Soldering Salts.

DESCRIPTION	PER DOZEN
2 oz. Bottles,	$2 00
8 oz. Bottles,	4 00
1 lb. Bottles,	7 00
	PER LB.
5 lb. Jars,	$ 2 25
10 lb. Jars,	4 25
25 lb. Jars,	10 50

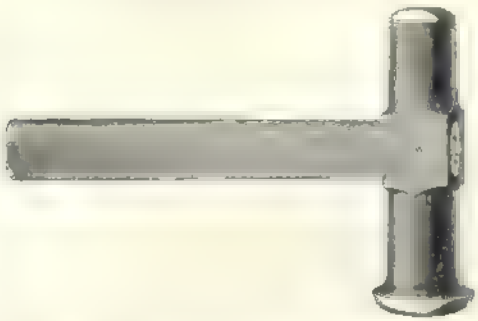
Riveting Hammers.

NO.	DESCRIPTION.	EACH
1	Sheet Iron, Bright, C. S., 1½ in. Handled,	$0 82
2	Tin, etc., Bright, C. S., 1 in., Handled,	70
3	Tin, etc., Bright, C. S., ⅞ in., Handled,	57
4	Tin, etc., Bright, C. S., ¾ in., Handled,	45

Setting Hammers.

NO.	DESCRIPTION.	EACH
1	Cast Steel, 1½ inch, Handled,	$0 82
2	Cast Steel, 1 inch, Handled,	70
3	Cast Steel, ⅞ inch, Handled,	57
4	Cast Steel, ¾ inch, Handled,	45

Raising Hammers.



NO.	DESCRIPTION.	EACH
1	Cast Steel, Handled,	$2 [illegible]
2	Cast Steel, Handled,	1 85
3	Cast Steel, Handled,	1 [illegible]
4	Cast Steel, Handled,	85

Tinners' Tools and Machines.

Wrought Iron Stakes, with Steel Faces.

Beakhorn.

No.	DESCRIPTION.	EACH.
1	Large Stake or Beakhorn, 45 pounds, -	$15 00

Blowhorn.

DESCRIPTION	EACH.
Common Blowhorn, Large End, 9 in., Small End 1⅞ in., - - - - - - - - -	$5 00

Double Seaming.

No.	DESCRIPTION.	EACH.
1	Double Seaming, Large End, 17 in., Small End, 12 in., - - - - - -	$9 00
2	Double Seaming, Each End 11 in., -	8 00

Creasing.

Creasing, with Horn.

DESCRIPTION.	EACH.
Common Creasing, 14½ inches long, - -	$4 00
Creasing, with Horn, Round End, 9½ in. Flat End, 6½ in., - - - - - -	4 50

Candle Mould.

Needle Case.

DESCRIPTION.	EACH.
Needle Case, Flat End, 8 in., Small End 10½ in.,	$2 25
Candle Mould, Small End, 18 in. Horn 8½ in., -	2 75

Square.

Hatchet.

DESCRIPTION	EACH.
Common Square Face, 2⅜ × 4½ inches, - -	$3 00

Hatchet.

No. - - -	1	2	3	4	5	6
Length of Blade,	16	14½	13	11	9	7 in.
Each,	$5 00	4 25	3 50	2 75	2 25	1 75

Cast Iron Tinners' Stakes.

DESCRIPTION.	EACH.
Double Seaming, with Four Heads, - - - - - - - - -	$9 00
Extra Heads, for Double Seaming, - - - - - - - - -	1 50

Tinners' Tools and Machines.

Cast Iron Stakes.

Round Head.

DESCRIPTION.	EACH
Round Head,	$1 25

Mandrel.

No.	DESCRIPTION.	EACH.
0	Mandrel, 3 ft. 4 in. long to the Standard,	$6 00
1	" 2 ft. 10 in. " " "	5 00

No. 1 Conductor.

No.	DESCRIPTION.	EACH.
1	Conductor, Turned, Large End, 15 in., Small End, 11¼ in. long,	$4 00

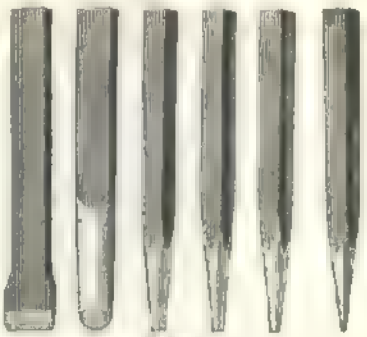
Hollow Mandrel.

DESCRIPTION.	EACH.
Hollow Mandrel, 3 ft., 4 in., entire length,	$5 50

Bench Plates.

No.	1	2
Size,	37 x 8 in.	30 x 8 in.
Price,	$3 00	2 50

Solid Punches.



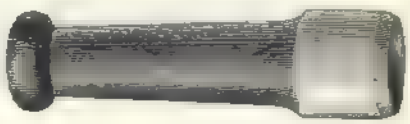
Set Solid Punches, One-Half Cut, Four Punches and Two Chisels.

DESCRIPTION.	EACH.
Square, Cast Steel, Nos. 0, 1, 2, 3, 4, 5, 6, 7 and Prick,	$0 12
Set Solid Punches, Nos. 1, 4, 6 and Prick Punches, ¼ in. Wide, and Lantern Chisels,	PER SET. 72

Tinners' Cast Steel Chisels

No.	0	⅜	½	⅝	¾
Each,	$0 08	09	10	11	12
Inch,	½	1	1⅛	1¼	1½
Each,	$0 13	14	15	17	20
Lantern Chisels, Each,					$0 12

Hollow Punches.



DESCRIPTION.	PER INCH.
All sizes, to and including 1¾ in. diameter, round,	$1 00
All sizes above 1¾ in. diameter,	1 25
	PER SET
Set of Hollow Punches, one each 1, 1½, 1¾,	5 50

Tinners' Tools and Machines.

Square Pan Swedges.

DESCRIPTION	EACH.
Square Pan Swedges,	$5 00

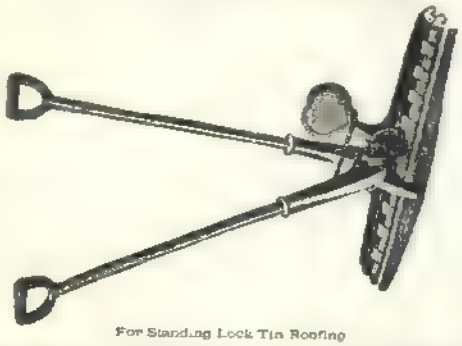
Square Pan Turners.

NO.	DESCRIPTION	PRICE
1	Square Pan Turners,	$2 50

Improved Wood Roofing Folders

DESCRIPTION	PRICE
Roofing Folder, Improved, 20 in., with Gauge,	$3 50
Roofing Folder, Improved, 30 in., with Gauge,	4 00
Roofing Folder, Common, 30 in., without Gauge,	3 50

Burritt's Roofing Double Seamers.



For Standing Lock Tin Roofing

DESCRIPTION.	PER SET.
Burritt's Roofing Double Seamer, 1 to 1½ in.,	$30 00
Burritt's Roofing Double Seamer, 1½ to 1½ in.,	30 00

Roofing Double Seamers.

DESCRIPTION.	PER SET.
Roofing Double Seamers, 2 pairs to match,	$1 75

Roofing Tongs.

DESCRIPTION.	PER PAIR.
Roofing Tongs, Steel, ¼, ½, 1, 1½, 1½ inches,	$3 00

Gutter Tongs.

DESCRIPTION.	PER PAIR
Gutter Tongs,	$5 00

Soldering Coppers.

Square Points for Common Use, Flat Points for Bottoms, etc

Weight Per Pair,	1½	2	3	4	5	6	7	8	9	12 lbs.
Per Lb.	$0 35									
11 Lb., Handled, with Shield, Per Pound,	$0 85									
Soldering Copper Handles, Per Dozen,	$0 50									

Wrought Iron Padlocks.

No. 0000.

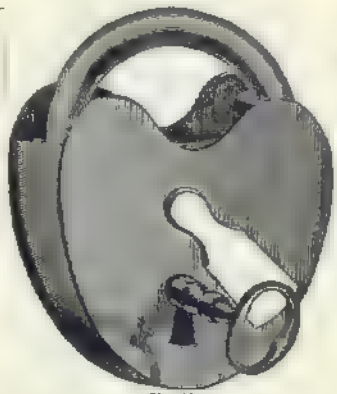
NO.	DESCRIPTION	PER DOZ.
0000	2 inch, Self locking, Spring Shackle. Assorted Keys,	$2 15

HALF DOZEN IN A BOX.

No. 000.

NO.	DESCRIPTION	PER DOZ.
000	2½ inch. Raised Bushing,	$3 10

HALF DOZEN IN A BOX.



No. 00.

NO.	DESCRIPTION.	PER DOZ
00	2½ inch, Brass Drop,	$3 75
00	Same, with 2 Keys,	4 35

HALF DOZEN IN A BOX.

No. 0

NO.	DESCRIPTION.	PER DOZ.
0	2½ inch Raised Bushing, Brass Drop, Assorted, 4 kinds to dozen,	$4 05

HALF DOZEN IN A BOX.

No. 1

NO.	DESCRIPTION.	PER DOZ.
1	2½ inch, Brass Drop,	$4 65
1	Same as above with 2 keys to each Lock,	5 25

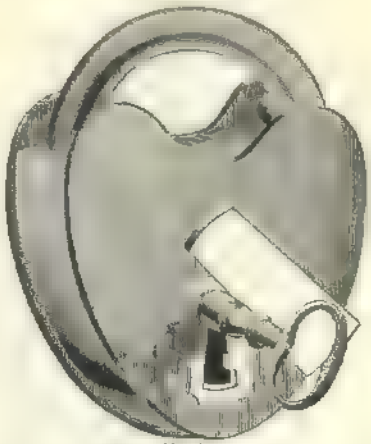
HALF DOZEN IN A BOX.

Wrought Iron Padlocks.

No. 2.

NO.	DESCRIPTION.	PER DOZ.
2	2¼ inch, Brass Drop and Bushing, 4 kinds to dozen,	$5 25
2	Same as above, 2 Keys to each Lock,	6 10

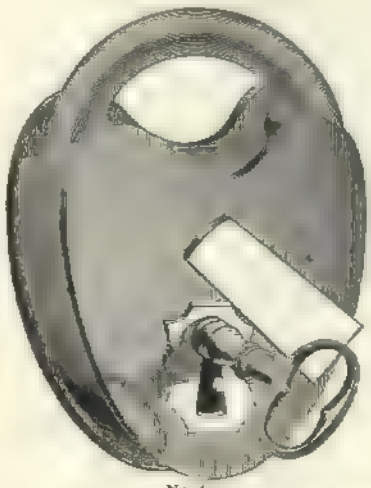
HALF DOZEN IN A BOX.



No. 3.

NO.	DESCRIPTION	PER DOZ.
3	2½ inch, Brass Drop and Bushing, 4 kinds to dozen,	$5 60

HALF DOZEN IN A BOX.



No. 4.

NO.	DESCRIPTION.	PER DOZ.
4	2¼ inch, Brass Drop and Bushing Heavy 6 kinds to dozen,	$6 35
5	2¼ inch, Brass Drop and Bushing, Heavy, 2 Wheels, Side Wards, 12 kinds to dozen, 2 Keys to each Lock,	8 05

HALF DOZEN IN A BOX.

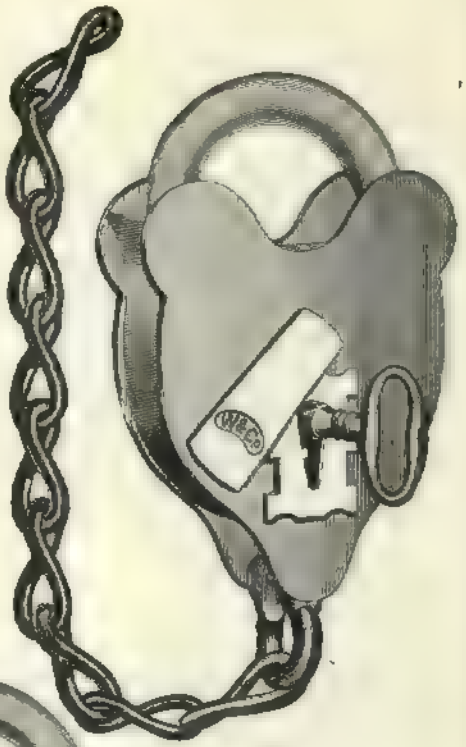
No. 7.

NO.	DESCRIPTION.	PER DOZ.
7	2¾ inch, Brass Drop and Bushing, Heavy, 2 Wheels, Side and Bridge Wards. 12 kinds to dozen, 2 Keys to each Lock,	$11 50

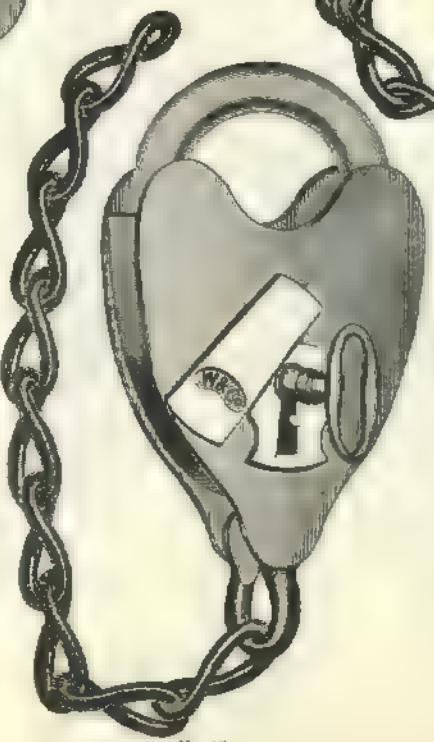
HALF DOZEN IN A BOX.

Wrought Iron Padlocks.

No. 18.



No. 14.



No. 17.

No.	DESCRIPTION	PER DOZ.
13	2½ inch Extra Fine Tumblers, Self Locking and Spring Drop and Double and Extra Safe with Chain, 2 Keys to each Lock, - -	[illegible]

HALF DOZEN IN A BOX.

No.	DESCRIPTION.	PER DOZ.
14	2½ inch, Brass Drop and Bushing, Spring Shackle with Chain, Double Cross, - -	$10 [illegible]
17	2½ inch Brass Drop and Bushing, 2 Wheels and Safe Works with Chain, 12 kinds - -	9 60

HALF DOZEN IN A BOX.

Wrought Iron Padlocks.

No. 67.

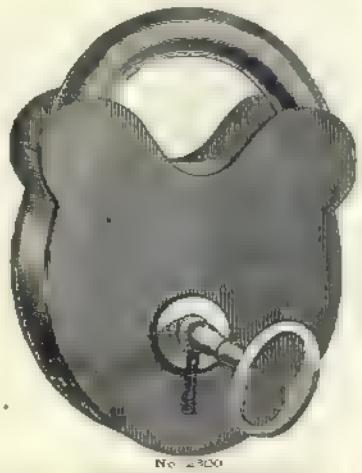
NO.	DESCRIPTION.	PER DOZ.
67	2½ inch, Brass Bushing, Heavy, 2 Wheels and Side Wards, 8 kinds to dozen,	$5 90

HALF DOZEN IN A BOX.

No. 2390

NO.	DESCRIPTION	PER DOZ.
2390	2½ inch, Brass Bushing, Fancy Engraved Drop, 4 Solid Wheels and Patent Bridge Ward, 4 kinds to dozen, Brass Key, with Patent Cast Steel Bit.	$3 70

HALF DOZEN IN A BOX.



No. 2500

NO.	DESCRIPTION	PER DOZ.
2500	2½ inch, Brass Bushing, Full Brass Wheels and Bridge Wards, 12 kinds to dozen, 2 Brass Keys, with Patent Cast Steel Bit, - - - - -	$11 80

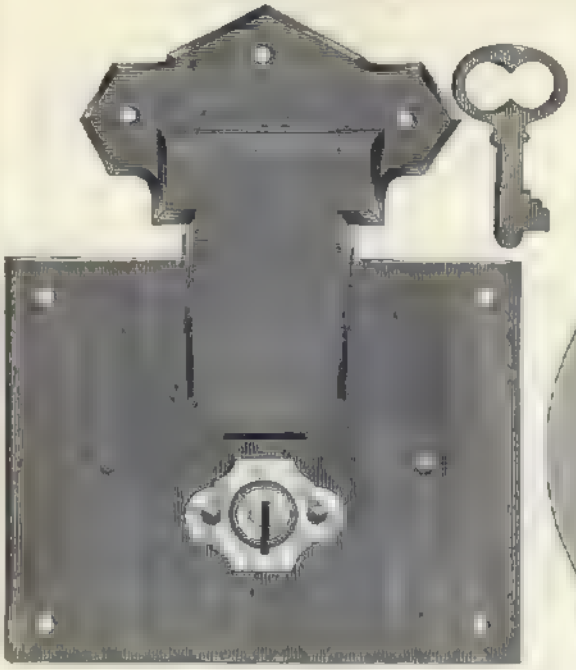
HALF DOZEN IN A BOX.

No. 27 X.

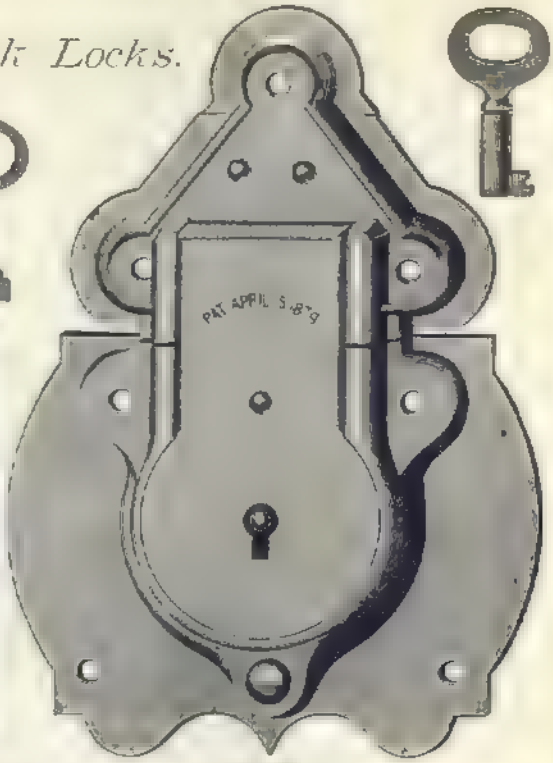
NO.	DESCRIPTION	PER DOZ.
2700	3 inch, Brass Bushing and Drop, Full Brass Wheels and Patent Bridge Wards, 12 kinds to dozen, Brass Key with Patent Cast Steel Bit, 2 Keys to each Lock, -	$15 50

HALF DOZEN IN A BOX.

Tumbler Trunk Locks.



No. 99½.



No. 199.

NO.	DESCRIPTION.	PER DOZEN.
99½	4 inch, Iron, Tin Bush, Patent Solid Spring Hasp, Flat Steel Keys, Assorted,	$2 00
086½	4 inch, Brass Plate, Edged and Polished, Brass Bush, Patent Solid Spring Hasp, Flat Steel Keys, Assorted,	4 25
199	4 inch, Iron, Brass Plated, Guard Cup, Flat Bow Keys,	4 50

ONE DOZEN IN A BOX.

Cash Box Locks.

NO.	DESCRIPTION	PER DOZ.
380	2 inch, Iron, 1 Tumbler, ⅞ inch front Set wedge to Key Pin, Double Link Flat Bow Keys, Assorted,	$2 25

NO.	DESCRIPTION.	PER DOZ.
234	2½ inch, Brass, Double Link, 1 Secure Lever, Fine Flat Bow Keys, Assorted, Brass Nose,	$4 00

ONE DOZEN IN A BOX.

Comparative Price List of Cabinet Locks.

EAGLE	PER DOZEN	PAGE IN CATALOGUE	KIND	CORBIN	PARKER	DAY LORD	YALE
9	$6 00	278	Chest	8	455	1	S50
014	3 00	271	Drawer	44	146	140½	R93
26	94	268	Till	128	14	182	R268
33	95	268	Till	0021	113	197	RA461
34	75	274	Chest	4	402	67	S2
35	1 00	274	Chest	04	503	66	SA5
36	1 00	268	Till	0025	214	195	RA462
37	2 25	275	Chest	032	519	64	SA2
42	75	274	Chest	0	500	75	SA21
43	75	274	Chest	02	501	71	SA22
44	1 00	281	Cupboard	0405	807	113	PA7
46	75	268	Till	0021	212	199	RA463
47	1 87	269	Till	0	502	168	RA67
48	1 12	269	Till	021	21	169	RA72
57	2 00	269	Till	402	25	170	R451
68	1 10	268	Till	0020	210	187	RA466
72	66	268	Till	0020	10	188	R468
81	1 20	269	Till	021	10	178	R470
83	2 75	275	Chest	38	458	39	S5
117	1 00	281	Cupboard	204	78	118	P4
133	1 12	275	Chest	6	405	50	S27
141	1 00	274	Chest	8	405	50	S29
142	1 50	274	Chest	11	408	42	S32
143	1 00	281	Cupboard	220	747	100	P29
147	4 75	283	Wardrobe	726	728	8	W50
150	6 50	285	Wardrobe	0726	818	80	WA50
151	5 50	282	Wardrobe	0724	810	88	WA46
157	4 00	283	Wardrobe	725	71	82	W48
160	1 00	275	Chest	30	412	46	S6
164	1 15	269	Till	034	29	224	R474
165	2 25	275	Chest	45	425	58	S8
166	2 75	275	Chest	035	515	52	SA5
166	2 12	276	Chest	81	414	57	S4
168	2 62	275	Chest	37	427	44	S7
169	2 87	275	Chest	035	513	27	SA64
169	2 87	275	Desk	035	513	27	SA64
17	8 00	278	Chest	80	481	0	S87
186	1 00	269	Till	035	238	42	R475
198	3 50	271	Drawer	403	47	150½	R112
203	4 50	271	Chest	78	480	101	S78
218	8 00	270	Chest	83	484	0	S84
234	4 00	28	Cash Box				
237	3 00	271	Drawer	457	43	153½	R108
238	4 00	271	Drawer	1457	342	154½	RA148
259	10 00	247	Chest	0153	540	2	SA177
277	8 00	271	Drawer	0454	280		RA77
294	10 00	277	Chest	0154	547	321	SA174
302	2 75	270	Drawer	0041	284		RA
303	2 50	270	Drawer	0440	239		RA1
311	2 25	270	Drawer	412	35		R3
312	2 00	270	Drawer	421	34		R2
338	2 62	281	Cupboard	0230	813		PA30
348	2 12	281	Cupboard	30	743		P30
350	2 25	97	Cash Box	821	030	..	S351
391	2 00	283	Wardrobe	723	706	356	W48

EAGLE	PER DOZEN	PAGE IN CATALOGUE	KIND	CORBIN	PARKER	DAY LORD	YALE
392	$1 75	283	Wardrobe	720	705	366	W44
393	1 62	282	Wardrobe	71	704	379	W8
394	1 50	282	Wardrobe	07	800		WA48
395	2 00	282	Wardrobe	0720	805		WA45
405	5 00	284	Drawer	0424	448	41	RA 13
408	4 00	270	Chest	420	439	311	S231
409	6 75	270	Chest	0420	539		SA251
410	4 00	270	Chest	420	437	325	S217
410	4 00	270	Desk	420	437	325	S217
417	1 00	282	Wardrobe	722	702	94	W5
423	75	268	Till	062	21	490	R465
425	7 00	270	Chest	421	43	305	S232
426	6 00	270	Chest	041	52		SA 23
427	8 00	270	Chest	451	435	338	S214
434	1 00	27	Drawer	452	41	160½	R104
467	8 00	275	Chest	412	420	341	S212
471	8 00	275	Chest	420	421	340	S230
500	1 87	283	Wardrobe	726	700	87½	W42
508	1 00	282	Wardrobe	728	800	98	WA1
509	1 50	282	Wardrobe	720			W1
510	1 00	282	Wardrobe	704	08	309	W7
53	4 75	270	Drawer	437	160	843	
579	4 25	270	Drawer	423	164	858	R252
561	4 25	270	Drawer	472	163	863	R250
568	6 37	282	Wardrobe	1462	877	632	WA80
570	6 00	282	Wardrobe	761	876	650	WA85
575	10 00	278	Chest	70		307	S81
577	6 00	277	Chest	1401	429	11	S116
581	7 00	277	Chest	147	427	31	S115
646	7 00	272	Drawer	431	427	81	S136
1258	5 00	271	Drawer	083		82	R254
1816	5 50	273	Drawer.				SA84
1816	4 00	278	Drawer	1025			RA70
1848	7 00	277	Drawer				R300
1876	6 00	271	Drawer				
2576	4 00	271	Drawer	0			RA
2576	4 00	271	Drawer	0			RA
2854	6 00	28	Desk				
2901	8 00	277	Chest				
6011	7 00	272	Drawer				
6050	7 00	272	Drawer	030			RA 1
6045	6 00	272	Drawer	0	50		RA
6045	6 00	272	Drawer	4	150		R
6055	8 00	280	Chest	0	703		SA157
6059	6 00	280	Chest	0	0		SA156
6073	14 00	280	Chest	0145	01		SA 56
6071	7 00	280	Chest	0151	0		SA154
6072	12 00	283	Wardrobe	0725	882		WA 06
6073	10 00	284	Wardrobe	0722	883		WA 04
6074	9 00	284	Wardrobe	072	881	.	WA 03
6080	5 00	273	Drawer.	0560	373	.	RA295
6087	9 00	280	Chest	0142	589		SA172
6088	7 50	280	Chest	0141	588	..	SA151
6090	4 50	274	Drawer	580	173	..	R295
6098	8 00	284	Wardrobe	0720			WA102

Comparative Price List of Wrought Iron Padlocks.

NO.	PER DOZEN.	PAGE IN CATALOGUE.	SIZE, INCHES.	NO. OF KEYS.	RUSSELL & ERWIN MFG. CO.	NORWICH LOCK MFG. CO.	BRITTAN, GRAHAM & MATHER.	MALLORY WHEELER CO.
0000	$ 2 15	290	2	1	3000	0000	00000	00000
000	2 10	290	2½	1	2000	000	000	000
00	3 75	290	2½	1	200	00	00	00
00	4 35	290	2½	3	200	00	00	00
0	4 05	290	2½	1	201	0	0	0
1	4 05	290	2½	1	203	1	1	1
1	5 25	290	2½	3	203	1	1	1
2	5 25	291	2½	1	208	2	2	2
2	6 10	291	2½	2	203	2	2	2
3	5 60	291	2½	1	204	3	3	3
4	6 35	291	2½	1	205	4	4	4
5	8 05	291	2½	2	206	5	5	5
7	11 50	291	2½	2	206	7	....	7
13	23 80	292	2½	2	813	....	....	13
14	10 35	292	2½	1	814	....	....	14
17	8 60	292	2½	1	806	....	17	17
57	5 90	293	2½	1	214	28	....	1028
2800	8 70	293	2½	1	....	....	....	1062
2500	11 80	293	2½	2	....	....	2004	1004
2700	15 50	293	3	2	....	....	....	1066
2800	10 85	294	2½	1	....	....	....	....
2900	10 80	294	2½	2	1206	....	....	....
3000	13 50	294	3	2	....	421	....	....
3001	8 85	294	2½	3	1236 1241 1222	123 405 431	2029	1029
3003	14 00	295	2½	3		....	....	1076
3009	10 75	295	2½	2	....	....	....	
3011	4 20	295	2	1	....	....	....	1057
3011	5 45	295	2	2	....	....	....	1057
3012	8 70	295	2½	1	....	....	....	....
3013	4 65	296	2½	1	220	40	2021	1021
3015	7 75	296	2½	1	.. .	....	2001	1001
3016	12 65	296	2½	2	1309	...	....	1082
3017	9 55	296	2½	2	1219	411 425	2030	1030
3018	8 00	297	2½	3	1.36 1241 1222	425 405 431	2029	1029
3019	8 50	297	2½	1	....	....	2024	1024
3026	11 90	297	2½	2	1238	524 582	2033	1033
3027	9 85	297	2½	2	1237	530	2043	1043
3029	20 50	298	2½	2	....	....	3014	1014
3030	6 20	298	2½	1	1200	....	2000	1000
3036	7 15	298	2½	2	246	982	2048	1048
3064	10 05	298	2½	3	246	.. .	...	1025
3065	13 35	299	2½	2	826	.. .	...	1042
3066	10 85	299	2½	1	1347	1430	2044	1044
3071	15 35	299	2½	2	....	. .	....	1011

Wrought Iron Padlocks.

No. 0000.

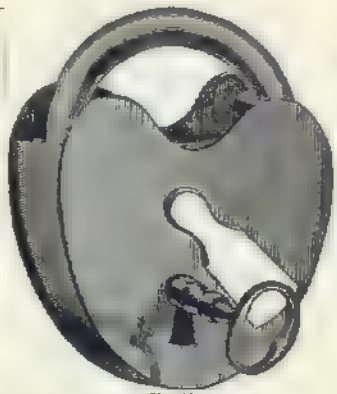
NO.	DESCRIPTION	PER DOZ.
0000	2 inch, Self locking, Spring Shackle. Assorted Keys,	$2 15

HALF DOZEN IN A BOX.

No. 000.

NO.	DESCRIPTION	PER DOZ.
000	2½ inch. Raised Bushing,	$3 10

HALF DOZEN IN A BOX.



No. 00.

NO.	DESCRIPTION.	PER DOZ
00	2½ inch, Brass Drop,	$3 75
00	Same, with 2 Keys,	4 35

HALF DOZEN IN A BOX.

No. 0

NO.	DESCRIPTION.	PER DOZ.
0	2½ inch Raised Bushing, Brass Drop, Assorted, 4 kinds to dozen,	$4 05

HALF DOZEN IN A BOX.

No. 1

NO.	DESCRIPTION.	PER DOZ.
1	2½ inch, Brass Drop,	$4 65
1	Same as above with 2 keys to each Lock,	5 25

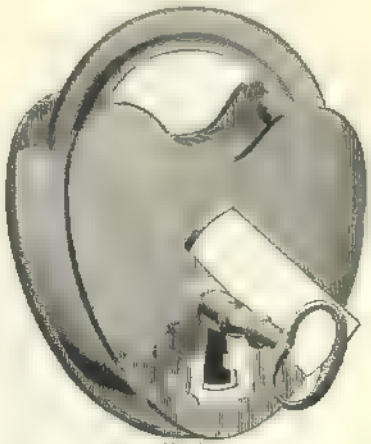
HALF DOZEN IN A BOX.

Wrought Iron Padlocks.

No. 2.

NO.	DESCRIPTION.	PER DOZ.
2	2¼ inch, Brass Drop and Bushing, 4 kinds to dozen,	$5 25
2	Same as above, 2 Keys to each Lock,	6 10

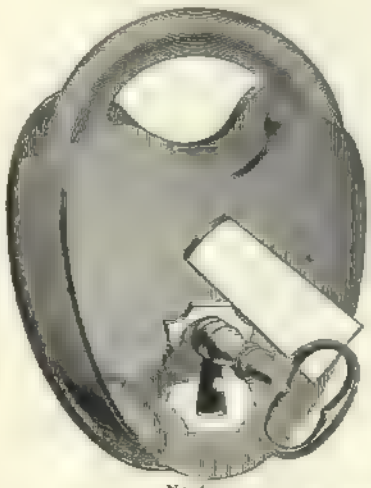
HALF DOZEN IN A BOX.



No. 3.

NO.	DESCRIPTION	PER DOZ.
3	2½ inch, Brass Drop and Bushing, 4 kinds to dozen,	$5 60

HALF DOZEN IN A BOX.



No. 4.

NO.	DESCRIPTION.	PER DOZ.
4	2¼ inch, Brass Drop and Bushing Heavy 6 kinds to dozen,	$6 35
5	2¼ inch, Brass Drop and Bushing, Heavy, 2 Wheels, Side Wards, 12 kinds to dozen, 2 Keys to each Lock,	8 05

HALF DOZEN IN A BOX.

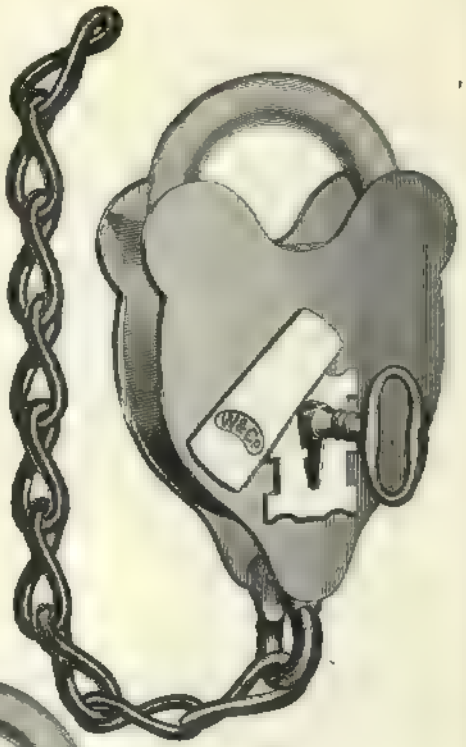
No. 7.

NO.	DESCRIPTION.	PER DOZ.
7	2¾ inch, Brass Drop and Bushing, Heavy, 2 Wheels, Side and Bridge Wards. 12 kinds to dozen, 2 Keys to each Lock,	$11 50

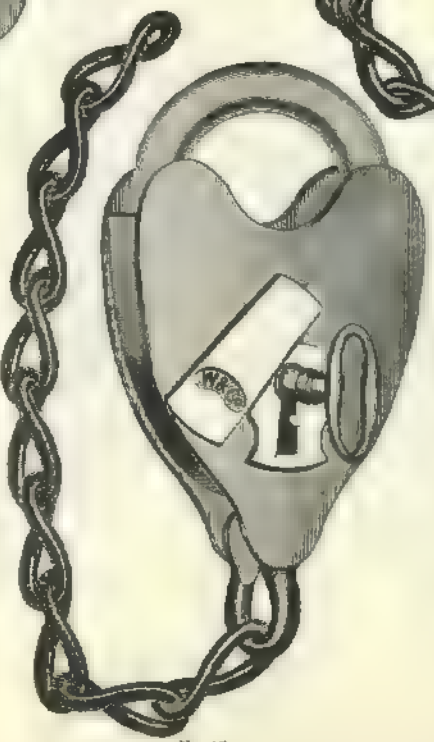
HALF DOZEN IN A BOX.

Wrought Iron Padlocks.

No. 18.



No. 14.



No. 17.

No.	DESCRIPTION	PER DOZ.
13	2½ inch Extra Fine Tumblers, Self Locking and Spring Drop and Double and Extra Safe with Chain, 2 Keys to each Lock, - -	[illegible]

HALF DOZEN IN A BOX.

No.	DESCRIPTION.	PER DOZ.
14	2½ inch, Brass Drop and Bushing, Spring Shackle with Chain, Double Cross, - -	$10 [illegible]
17	2½ inch Brass Drop and Bushing, 2 Wheels and Safe Works with Chain, 12 kinds - -	9 60

HALF DOZEN IN A BOX.

Wrought Iron Padlocks.

No. 67.

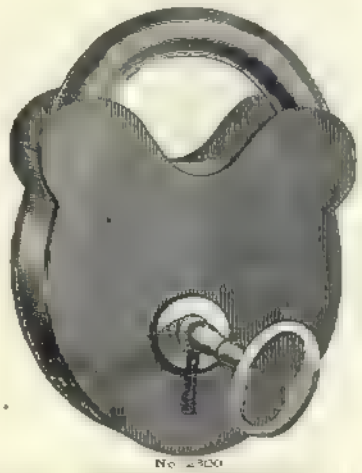
NO.	DESCRIPTION.	PER DOZ.
67	2½ inch, Brass Bushing, Heavy, 2 Wheels and Side Wards, 8 kinds to dozen,	$5 90

HALF DOZEN IN A BOX.

No. 2390

NO.	DESCRIPTION	PER DOZ.
2390	2½ inch, Brass Bushing, Fancy Engraved Drop, 4 Solid Wheels and Patent Bridge Ward, 4 kinds to dozen, Brass Key, with Patent Cast Steel Bit.	$3 70

HALF DOZEN IN A BOX.



No. 2500

NO.	DESCRIPTION	PER DOZ.
2500	2½ inch, Brass Bushing, Full Brass Wheels and Bridge Wards, 12 kinds to dozen, 2 Brass Keys, with Patent Cast Steel Bit, - - - - -	$11 80

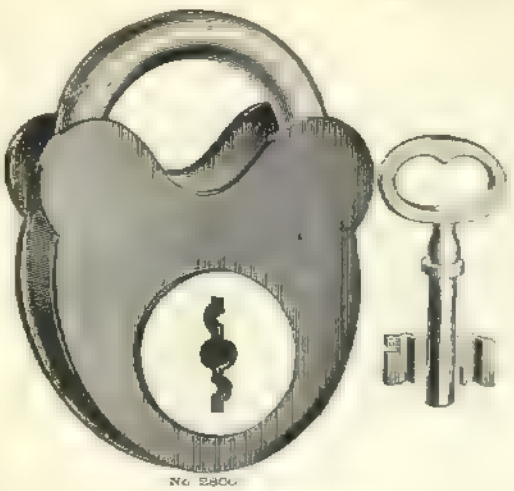
HALF DOZEN IN A BOX.

No. 27 X.

NO.	DESCRIPTION	PER DOZ.
2700	3 inch, Brass Bushing and Drop, Full Brass Wheels and Patent Bridge Wards, 12 kinds to dozen, Brass Key with Patent Cast Steel Bit, 2 Keys to each Lock, -	$15 50

HALF DOZEN IN A BOX.

Wrought Iron Padlocks.



No. 2800

NO.	DESCRIPTION.	PER DOZ.
2800	[illegible] Brass Bushing and Fancy Engraved Drop, Full Brass Wheels, Patent Rotating Key Hub, 2 Solid Cast Steel Keys to each Lock, 6 kinds to dozen, Brass Key, with Patent Double Cast Steel Bit,	$10 35

HALF DOZEN IN A BOX

No. 2900

NO.	DESCRIPTION	PER DOZ.
2900	2½ inch Brass Bushing and Fancy Engraved Drop, Full Brass Wheels, Patent Rotating Key Hub, 2 Solid Cast Steel Keys to each Lock, 6 kinds to dozen.	$10 80

HALF DOZEN IN A BOX.

No. 3000

NO.	DESCRIPTION.	PER DOZ.
3000	3 inch, Brass Bushing and Fancy Engraved Drop, Patent Rotating Key Hub, Solid Cast Steel Key, 6 kinds to dozen,	$13 50

HALF DOZEN IN A BOX.

No. 3001

NO.	DESCRIPTION	PER DOZ.
3001	2¾ inch, Brass Bushing, Fancy Engraved Drop, Patent Rotating Key, Hub and Bridge Ward, 2 Solid Cast Steel Keys, 6 kinds to dozen,	$8 35

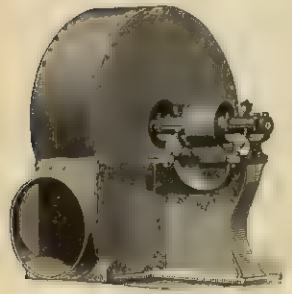
HALF DOZEN IN A BOX

QUEEN CITY SUPPLY CO. CINCINNATI O.

STEEL PLATE EXHAUSTERS.

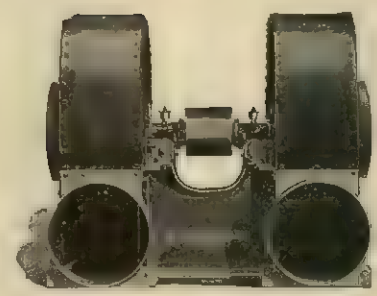
"STURTEVANT."

Fig. 3.



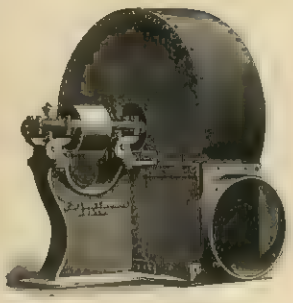
Right Hand Single Exhauster.

Fig. 4.



Double Exhauster.

Fig. 5.



Left Hand Single Exhauster.

THESE Fans are expressly made for removing chips, shavings, and sawdust from wood working machinery. The shells of Exhausting Fans have been made heretofore, wholly, or in large part, of cast iron, with the hanger which supports the wheel, shaft and pulley, secured to the cast iron side of the Exhauster. The whole strain from the belt is thus thrown upon this thin, brittle plate of cast iron, and any sudden strain, due to a large knot or piece of wood getting into the Exhauster, is liable to completely wreck both wheel and shell. To do away with this danger, we manufacture a full line of Exhausting Fans, in which the whole machine, except the bottom plate, mouth piece and standard for the journal-boxes, is made of STEEL and the wheel, shaft and pulley are supported by a standard with a broad base resting on the floor, thus removing all strain from the side of the shell, and providing a substantial support for the running parts of the Exhauster.

SIZES AND PRICES SINGLE EXHAUSTERS

SIZES.	Height of Shell.	Outside Diameter of Inlet	Outside Diameter of Outlet	Diam. and Face of Pulleys	Speed for Ordinary Work	Speed for Heavy Work	PRICE
30 - inch.	30 inches.	11 inches.	11 inches.	5¼ x 5	2,200	2,600	$44 00
35 "	35 "	13 "	13 "	6 x 6	1,800	2,200	55.00
40 "	40 "	15 "	14⅜ "	6¾ x 6¼	1,600	1,900	70 00
45 "	45 "	17 "	16⅞ "	8 x 7½	1,475	1,750	90 00
50 "	50 "	19 "	18⅜ "	8½ x 8½	1,300	1,550	115 00
55 "	55 "	21 "	20½ "	9⅞ x 9⅛	1,200	1,400	150 00
60 "	60 "	23 "	22¾ "	10¼ x 10	1,100	1,300	185 00
70 "	70 "	25¾ "	25¾ "	12 x 10½	950	1,100	290 00
80 "	80 "	30 "	30 "	13¾ x 11¼	800	950	32[illegible] 00

SIZES AND PRICES DOUBLE EXHAUSTERS.

SIZES	Height of Shell.	Outside Diameter of Inlet	Outside Diameter of Outlet	Diam and Face of Pulley	Speed for Ordinary Work	Speed for Heavy Work	PRICE
30 - inch	30 inches.	11 inches.	11 inches.	6⅛ x 6	2,200	2,600	$80 00
35 "	35 "	13 "	13 "	[illegible] x 7	1,800	2,200	100 00
40 "	40 "	15 "	14¾ "	8 x 8	1,600	1,900	130 00
45 "	45 "	17 "	16⅞ "	9¼ x 9¼	1,475	1,750	170 00
50 "	50 "	19 "	18⅜ "	10⅛ x 10½	1,300	1,550	210 00
55 "	55 "	21 "	20½ "	11¼ x 11	1,200	1,400	275 00
60 "	60 "	23 "	22¾ "	12 x 11[illegible]	1,100	1,300	340 00

LONG SHAVINGS. The long, stringy shavings formed in the manufacture of barrels, shingles, etc., can only be successfully handled by the Sturtevant Long Shaving Exhausters, which are constructed with special wheels, designed, that there is no opportunity whatever for the shavings to be caught and entangled upon the wheel. The prices are the same as for the regular Steel Plate Planing Mill Exhausters.

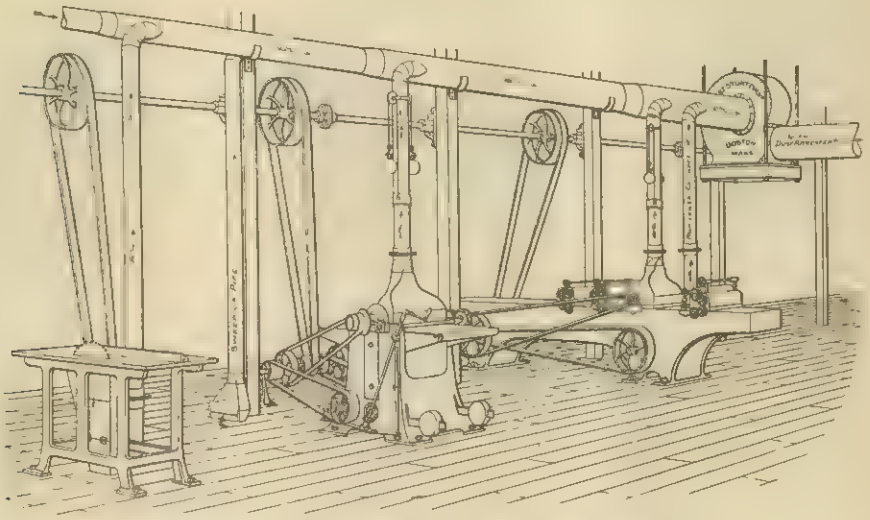
QUEEN CITY SUPPLY CO. CINCINNATI

PUCHTA PUMP & Propr's

STEEL PLATE PLANING MILL EXHAUSTERS.

"STURTEVANT."

Fig. 6.



Applied to Removing Refuse from Wood-working Machinery.

INSTRUCTIONS FOR CONNECTING WITH WOOD-WORKING MACHINERY.

SIZE OF EXHAUSTER AND SUCTION PIPES.—Determine separately the most economical size of pipe to remove the waste material from each machine. These sizes will vary from 3 to 5 inches diameter for small machines, such as buzz-planers and cut off saws, from 7 to 8 inches for the largest machines. The usual size for sweep up pipes is about 6 inches in diameter. These dimensions are for pipes less than 15 feet in length. When they exceed this length, the diameter should be increased 10 per cent for each 20 feet increase in length. Add together the areas of all the branches thus found, and the sum will give the least admissible area of the main pipe. It is best, however, to make the size about 20 per cent. in excess of that calculated in this way: As the main suction pipe recedes from the exhauster, and branches are taken out from it it should be diminished in area proportionally to the areas of these branches, so that at any point in the main suction pipe the area of cross section shall be at least equal to, and preferably 20 per cent. greater than, the aggregate area of the openings beyond; *i. e.*, further away from the fan. The inlet of the exhauster should be of the same diameter as the main suction pipe after all the branches have entered it. Therefore, to determine the proper size of fan, select from the list of exhausting fans one with an inlet equal to the diameter of the main suction pipe; or, if such can not be found, the one next larger.

ADVANTAGES OF DOUBLE EXHAUSTERS.—It is well known that fans are more effective in small than in large diameters, *i. e.*, that a small fan will, for its size, do more work than a large one. For this reason it is often advisable to substitute a double for a single exhauster. A double also possesses other advantages over two single exhausters, and should always, when possible, be used in their stead. With the double exhauster only one belt and one countershaft is required, much less space is occupied, smaller and shorter pipes can be used, and above all, return bends in the pipes are avoided, for there is an inlet in the outer side of each fan. On account of this arrangement they may be much more readily placed centrally among the machines.

LOCATION OF EXHAUSTER.—The exhauster should be placed nearest the heaviest work, but nevertheless, so far as convenient, centrally with regard to all the machines. If the machines are so far apart that the branches must exceed 50 feet in length, it is more economical to increase the number of fans, preferably by using double exhausters, until they are brought within reasonable lengths.

DISCHARGE OF EXHAUSTER.—The Sturtevant Exhausters are built to discharge in three different directions (as shown elsewhere), either horizontally at the bottom or top, or vertically upward, and are designated respectively as bottom horizontal, top horizontal, and up blast discharge. In each case, the bottom of the blast wheel, inside the exhauster, travels toward the outlet. The object of these various discharges is to avoid a cross belt from counter or main line to the exhauster. Note the direction in which the main line runs, and then choose such an exhauster as will avoid the use of a cross belt. If a bottom horizontal requires a cross-belt, then a top horizontal may be run with an open one, and *vice versa*.

STEEL PLATE PLANING MILL EXHAUSTERS.

"STURTEVANT."

Applied to Removing Refuse from Wood-working Machinery—Instructions for Connecting with Wood-working Machinery.

(CONTINUED).

HAND OF EXHAUSTER.—An exhauster is designated *right hand*, when the pulley is on the right hand side as one faces the outlet, and *left hand* when upon the left hand side. When ordering, always state which hand is wanted, and when it makes no difference, so state in order.

SPEED OF EXHAUSTER. Two speeds are given in the tables. That for ordinary work will produce a suction of about 4 ounces, and is sufficient to handle light shavings from light kiln dried lumber. The maximum speed creates a suction of about 6 ounces, and is all that is ordinarily required for heavy shavings from moist or green oak stock. Determine, from a knowledge of the work to be done, the proper speed to run and then proportion the pulleys on counter and main line for that speed.

HOODS, HOPPERS, ETC.—No fixed shapes of hoods, hoppers, etc., can be given for all machines, owing to the wide variation in the manner of their construction, but the accompanying cuts will at least make plain the principles upon which they should be made. The secret of success in hooding and piping is to secure a velocity of 100 to 150 feet per second of the air entering the hood around cutters and the like, to keep up an equality of velocity in the hood itself, by keeping nearly constant areas at different points and to maintain in the branch and main pipes sufficient velocity to lift and carry all materials. A high velocity of the air entering planing machine hoods can only be secured by fitting them very closely around the cutters and journal bearings and bringing them down to the cross bar and roller.

As seen in the cuts of upper cylinder hoods, they are contracted in one direction as they are expanded in the other, so that the area for flow of air is always equal to the area of the pipe. Upper cylinder hoods are very often made without such contraction, but are not so effective. Two styles, in which an equality of area is maintained, are represented in the end views. The one which gives the most direct passage for the materials is necessarily the best. Care must be taken that the chips do not strike against any portion of the hood and fall back upon the cutters instead of passing up the pipe. The inclination of the sides, lengthwise of the hood, should be sufficient to insure equal suction at the ends and center of the cutter. When the cylinder is very long the pipe may be divided to still better equalize the suction. The shapes shown in the end views will answer equally well for single or double pipes. The bottoms of all upper hoods should be stayed with heavy wire run in around the edge or by flat iron straps.

Obviously, hoods and hoppers into which materials drop do not need such care in design, the object being simply to collect in the pipe all substances falling from the machine, and care sufficient to secure this end is all that is required. They may be constructed of wood or sheet metal, as is most desirable. A small door should be provided in the side of the hopper through which any large chips, likely to clog the pipe, may be removed. When a large amount of sticks and bark falls through the machine, as in the case of large ripping saws, a wood or metal lattice may be placed in the hopper to prevent stoppage of the pipe. This arrangement is shown in the cuts.

A large hopper, alongside a Daniels planer, will serve to collect and deliver to the pipe the chips thrown off by the cutters. A flattened pipe butting against the edge of the table of an edge moulding or similar machine, will create a movement of the air sufficient to draw the dust into it. For lathes used upon a regular class of work, hoods may easily be provided into which all the chips will be thrown. Arrangements will readily suggest themselves to any who have special machines to fit up.

BLAST GATES.—All branch pipes should be provided with blast gates, so that when not in use the air may be prevented from passing through them. This will result in a reduction of the work done, which means a corresponding reduction of the power required. The slide in the sweep-up pipe should also be closed when not in use. Hand holes in the bottom of horizontal pipes, near sharp bends and contractions, afford an excellent opportunity for cleaning the pipes of material which may become lodged in them. An ordinary slide, if carefully fitted, will be sufficient to close the holes. In a properly proportioned system of piping, however, such expedients will not be required.

DISCHARGE PIPES.—The discharge pipe is governed in size by the number and area of openings in the suction pipe and should have an area at least equal to their aggregate area. If the suction piping is properly arranged for the full capacity of the fan, the diameter of the discharge pipe will be equal to that of the outlet of the exhauster. The discharge pipe is not, like the suction, restricted as to length.

ARRANGEMENT OF PIPING.—Arrange the piping so that the course taken by the air shall be the most direct, and so that as little pipe and as few bends shall be required as possible. Tight joints are a necessity. All changes in direction in the piping should be made in good, easy curves, the radius of the inside curve of the pipe being at least equal to the diameter of the pipe. Branch pipes should enter the main upon the sides or top, never upon the bottom, and have an easy inclination or goose-neck turn towards the exhauster.

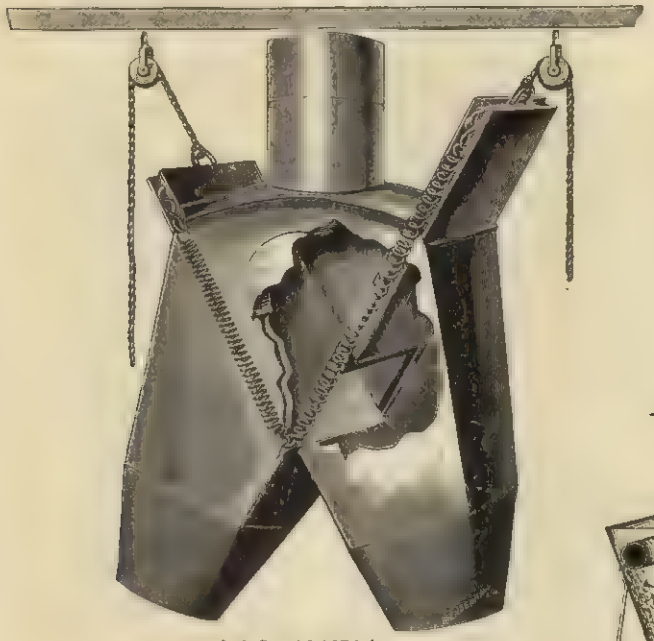
SHAVING ROOM.—The materials delivered by the fan through the outlet pipe may be discharged into a shaving room, but care should be taken that sufficient outlet is provided for the escape of air from the room, so that no back pressure may be placed upon the exhauster. An area of outlet from the room, equal to six times that of the discharge pipe, will insure a free escape of air, and the shavings will be quietly deposited.

DUST ARRESTERS.—The several forms of dust arresters now upon the market, when properly applied, can be successfully used on shaving rooms, without placing any injurious back pressure upon the exhauster.

In ordering Piping, Hoods, or Exhausters, please send diagram showing location and size of machine—their distance from exhauster, proposed location of exhauster, direction in which top of line shaft turns, etc.

DUST SEPARATORS AND CUT-OFF VALVES.

Fig. 7.



Lee's Patent Cut-Off Valve.

IMPROVED DUST SEPARATOR.

THIS is the most complete and satisfactory dust separator ever placed on the market. It is adapted for use in Furniture and Shoe Factories, Planing Mills, etc., and wherever a system of Exhaust Fan piping is used. It will lay *finer dust*; it does not produce a *back pressure on Fan or in the shaving house.* It is provided with a Governor which regulates the pressure of air leading to the furnace or shaving house. It can if necessary be used inside of factories without any inconvenience, whenever space on the outside can not be had.

In ordering or making inquiries state size of Fan to be used in connection with it.

PRICES ON APPLICATION

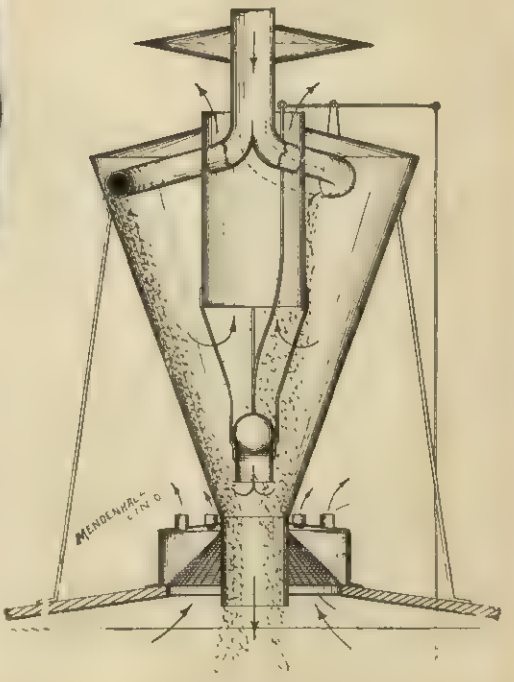
PATENT CUT-OFF VALVES.

THESE valves are simple in construction and perfect in their working. They are adapted for use on Grain Chutes, Spouts, Conveyors, Elevators, Furnace Feeders, etc. They are so constructed that they cannot clog up, and are absolutely dust proof.

In ordering or making inquiries, give diameter of pipe entering valve.

PRICES ON APPLICATION.

Fig. 8.

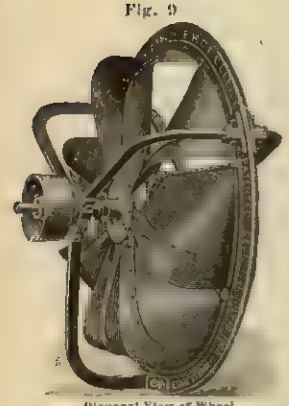


Lee's Improved Dust Separator.

EXHAUST FANS AND AIR PROPELLERS.

"BLACKMAN"

Fig. 9



Diagonal View of Wheel.

THE BLACKMAN Exhaust Fan and Air Propellers are constructed of Sheet Steel Blades riveted to wrought iron arms and fastened at the periphery to a wrought iron rim. The arms are bolted to heavy Cast Iron Discs, accurately bored to fit the shafts, which are of cold rolled steel. The arms supporting the bearings are of wrought iron, fastened with knees and lugs to the outer cast iron ring. The bearings are so constructed as to be self-adjusting, are of cast iron lined with the best anti-friction metal, and provided with an adjustable feed glass oil cup. For all pulleys above eight inches in diameter patented balanced steel rim pulleys are used.

SIZES AND PRICES.

Nominal Diameter or Size	12 in	18 in	24 in.	30 in	36 in.	42 in	48 in	60 in	72 in	84 in	8
Exact Diameter of Fan		18	23½	29½	35½	41¾	49½	60	72	85	
Exact Diam. of Opening in which Iron Frame will fit		19¼	24¼	30⅝	36¼	42¼	50¼				
Extreme Diameter of Iron Frame or Circle		22¼	27¼	34	40	46	55¼				
Diameter of Pulley		5	5	6	7	8	9	12	16	18	20
Width of Pulley		2	2	2½	3	3½	4	6	6		
Distance between outer ends of Bearings		18¾	19¼	20	20	24	26	42	48		
Length of Shaft		17¼	18½	22	26	28	30	42	48		
Depth of Buckets		4½	5	6½	7½	8½	10	11½	14		
Diameter of Shaft	½	⅝	⅝	1	1¼	1¼	1½	1¾	2		
Weight of Fan lbs.		80	90	116	135	65	285	320	338½		
Price	$25	$50	$60	$70	$80	$90	$100	$150	$200		

Fig. 10

Front View of Wheel.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUMP & MFG. CO.

EXHAUST FANS AND AIR PROPELLERS.

"BLACKMAN."

Fig. 11.

Table Showing Number of Cubic Feet of Air Moved per Minute by the Blackman Air Propeller when Running at Different Speeds under Free Circulation.

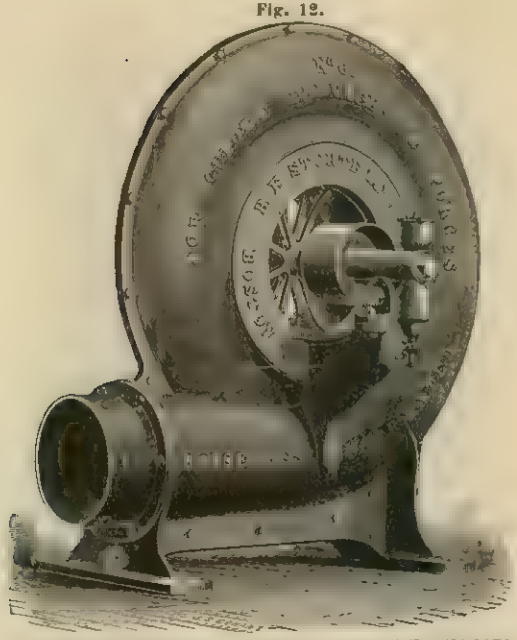
Revolutions per minute.	18 inch.	24 inch.	30 inch.	36 inch.	42 inch.	48 inch.	60 inch.	72 inch
160							14 959	26 447
160							16 022	28 660
180							18.176	32 427
200						10 134	20 366	36 477
220						11 241	22 595	40 488
240						12 373	24.880	44.555
260					8.612	13.529	27 163	48 692
280					9 329	14.710	29 504	52 804
300				6 475	10 058	15.915	31 882	57 162
320			4.214	6 966	10 801	17.144	34 296	61 496
340			4 545	7 489	11 556	18 309	36 749	65 894
360		2.430	4 888	7.984	12.325	19 676	39.239	70 .57
380		2 598	5 243	8 510	13.106	20 979	41 766	74 886
400	1 402	2 771	5.609	9 048	13 901	22.306	44.230	79 .316
420	1 467	2 950	5.987	9 591	14 709	23 658	46 942	83 592
440	1,546	3 136	6.377	10 157	15 529	25 033	49 570	87 714
460	1 60	3 329	6 776	10 730	16 364	26 434	52 247	91 081
480	1 681	3 526	7 184	11 314	17 211	27 865	54 960	95 495
500	1 749	3.730	7 602	11.912	18.070	29 315	57 712	
520	1 817	3 939	8 029	12 404	18 944	30.789	60 428	
540	1 887	4 155	8 465	13 022	19 830	32 288	63 060	
560	1.959	4 577	8 911	13 652	20 729	33 810	65 .08	
580	2 032	4.605	9 366	14 296	21 642	35 330	68 072	
600	2 109	4 839	9 830	14 952	22 569	36 771	70 468	
620	2 173	5 089	10 304	15 619	23 506	38 135		
640	2 244	5.326	10 787	16.299	24 457	39 415		
660	2 31.	5 57	11 279	16 989	25 422	40 642		
680	2 377	5 831	11 781	17.691	26 380	41 869		
700	2 448	6 091	12 282	18 405	27 323	43.097		

QUEEN CITY SUPPLY CO. CINCINNATI, O.

STEEL PRESSURE BLOWERS.

"STURTEVANT."

Fig. 12.



FOR CUPOLA FURNACES, FORGES AND IRON FOUNDRIES.

IN addition to their use for Cupola Furnaces and Forge Fires, they are very efficient machines for producing the blast in sand blast machines, for forcing air long distances, in connection with the pneumatic tube delivery system or in any cases where a high pressure or strong blast is required.

Great pains have been taken to simplify the construction of these Blowers, and to strengthen all parts. Any machinist of ordinary skill will readily understand how to adjust, keep in order and repair. They are built heavier and stronger than formerly, particularly in the running parts which are most subject to wear. The fact that these Blowers have been running continuously for 25 to 30 years, without any repairs whatever, is sufficient evidence of their durability.

Attention is called to the journal boxes, which contain many new and useful improvements over the old ones. Duplicate sets of these journals will be furnished to purchasers desiring them at a small advance above cost.

No. of Blower	Outside Diam. of Outlet.	Diam. of Pulley.	Face of Pulley.	Number of Pulleys on Blower.	PRICE
0000	2¾	1⅞	1⅜		$ 15 00
00	3½	2⅝	1⅞		20 00
0	4	3	2⅛	Nos. 0000 to 3 inclusive	26 00
1	4⅞	3½	2½	have only one pulley.	36 00
2	5⅝	3⅞	2⅝		44 00
3	6¼	4⅜	3		55 00
4	7⅛	5	3½		70 00
5	8⅛	5¾	4		90 00
6	10¼	6¾	4½		115 00
7	12	7⅞	5¾	Nos. 4 to 10 inclusive	180 00
8	13⅞	9⅛	6¼	have two pulleys.	255 00
9	16	10⅛	8		325 00
10	18½	12⅝	9¾		450 00

When one pulley only is used, it is placed on the *right hand*, as one faces the outlet, and the Blower is designated as *right hand*. When desired, the smaller sizes can be fitted with two pulleys. All sizes are regularly built to discharge horizontally at the bottom, but can be built to order to discharge either horizontally at the top, directly upward or directly downward.

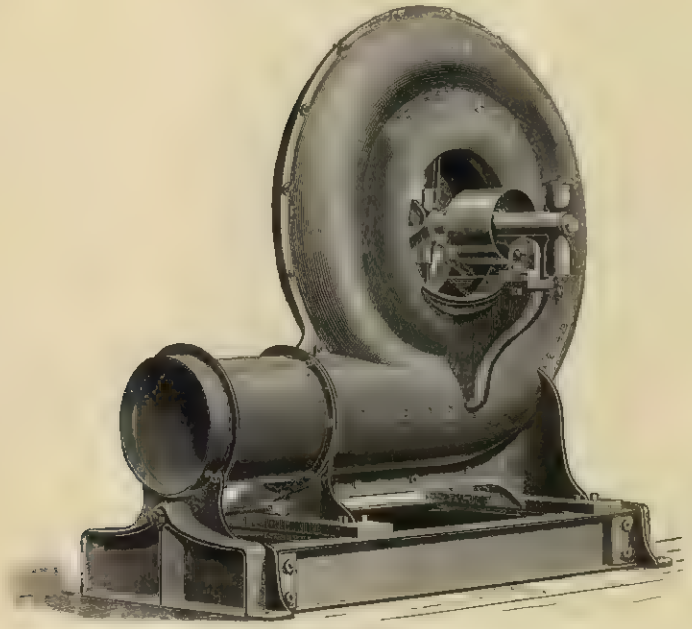
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA Patent Preparation

STEEL PRESSURE BLOWERS.

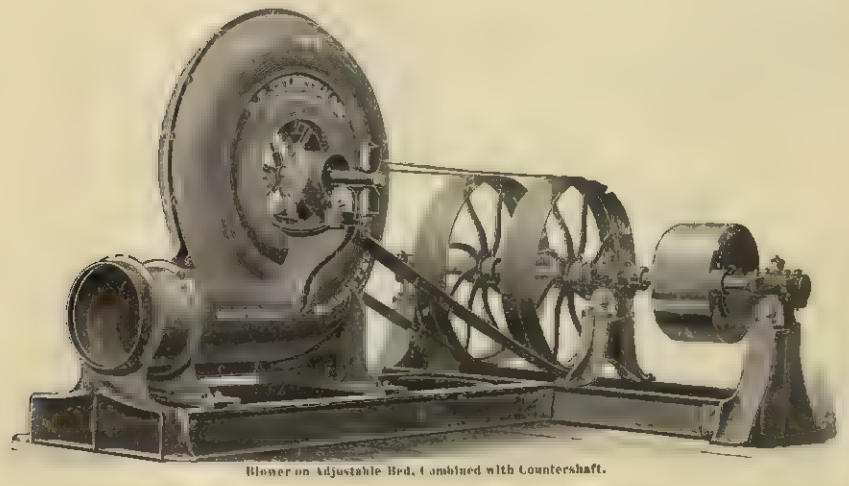
"STURTEVANT."

Fig. 13.



Blower on Adjustable Bed.

Fig. 14.



Blower on Adjustable Bed, Combined with Countershaft.

Pucritas Pump & C Propr's

QUEEN CITY SUPPLY CO CINCINNATI, O.

STEEL PRESSURE BLOWERS.

"STURTEVANT."

With Adjustable Bed and Combined with Countershaft.

THE high speed at which pressure blower belts must run renders it necessary that especial attention should be given them. By means of the arrangement shown on opposite page consisting of a blower, adjustable by a screw, on a wrought iron frame bed) any required tension may be brought upon the belts while running, thus preventing the inconvenience and loss incident to a stoppage of the Blower while work is in progress.

The use of this bed will be found to result in a decided saving in belts, a turn or two of the nut on the end of the adjusting screw, and re tightening the hold down bolts, takes but a moment at any time, and is more satisfactory than re lacing

In the Combined Adjustable Bed with Countershaft the positive alignment of countershaft with the shaft of the Blower causes the belts to run smoothly, track evenly, and prevents the wear of belts by striking against the hanger or side of the Blower.

The tightening screw gives to both belts a uniform tension, which can be regulated at will, and the telescopic mouthpiece enables the Blower to be moved upon its bed without disarranging the blast pipe.

Sufficient length is given to the countershaft so that tight and loose pulleys can be used for the main driving belt, if desired, and the countershaft boxes are fitted with a patent self-oiling device, enabling the countershaft to be run at high speeds for long periods without danger from heating and cutting

The bed is built of wrought iron beams securely bolted together, forming a very stiff and light frame, which will be appreciated.

Number of Blower.	BLOWER			COUNTERSHAFT.			PRICES.	
	Outside Diameter of Outlet	Diameter of Pulley	Face of Pulley	Diameter of Pulleys Driving Blower.	Diameter of Pulley Driven by Main Belt from Line Shaft.	Diameter of Shaft.	Blower on Adjustable Bed	Blower on Adjustable Bed with Combined Countershaft.
4	7⅜	5	3½	28	10, 12, 14	1¾	$105	$140
5	8⅞	5¾	4	32	12, 14, 16	2 1/16	135	180
6	10¼	6¾	4½	36	12, 14, 16, 18	2⅜	175	230
7	12	7⅞	5¾	42	14, 16, 18, 20	2 7/16	270	360
8	13⅞	9⅛	6¼	42	18, 20, 22, 24	2 11/16	340	450
9	16	10⅛	8	48	18, 20, 22, 24	2 11/16	490	650
10	18½	12⅝	9¾	54	18, 20, 22, 24	2 11/16	675	900

Nos 4 to 10 inclusive, which always have two pulleys, are the only sizes regularly furnished with adjustable bed, or with combined adjustable bed and countershaft, but the other sizes can be thus fitted, when so ordered. Only Bottom Horizontal Discharge Blowers are regularly fitted up in this style.

Tight and loose pulleys are furnished at a nominal additional price in place of the usual single countershaft pulley driven by main belt.

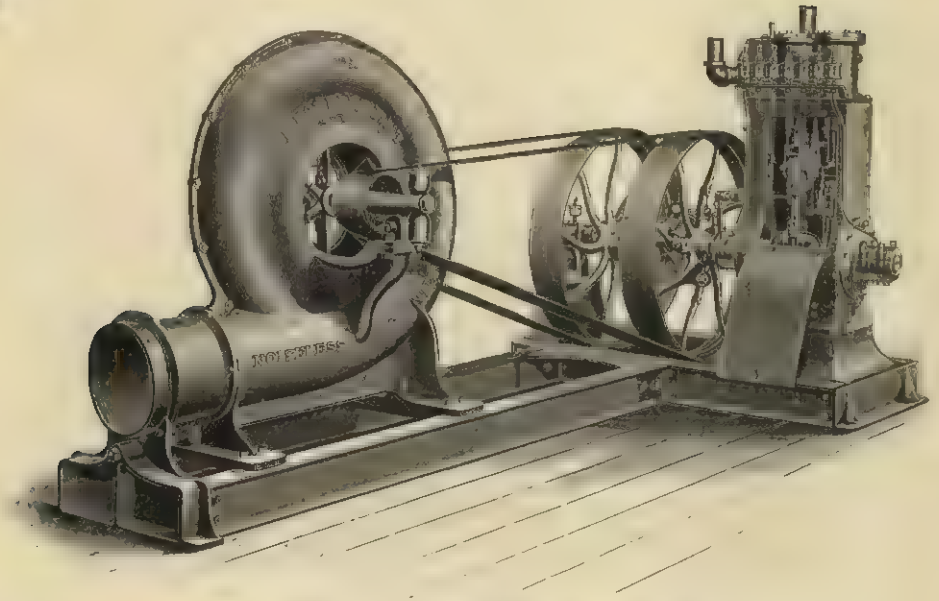
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUMP & SUPPLY CO. Proprs.

STEEL PRESSURE BLOWERS.

"STURTEVANT."

Fig. 15.



Blower on Adjustable Bed, with Combined Double Enclosed Upright Engine.

THE styles of engines employed are identically the same in design, workmanship and material as the regular automatic engines.

The double enclosed upright engine is peculiarly fitted for this service. All the running parts are thoroughly protected from the dust that forms an inherent part of the atmosphere in or about any foundry or forge shop. The oil cups are all placed upon the exterior of the frame, so that continous oiling is possible without the repeated opening and closing of the door.

The short stroke, the perfect balance of the reciprocating parts, and the large wearing surfaces make high rotative speed possible and render this engine unexcelled by any in the market.

Number of Blower	1 to 8 oz. Pressure. Dia. of Cylinder.	1 to 8 oz. Pressure. Stroke	Style	8 to 16 oz. Pressure. Dia. of Cylinder	8 to 16 oz. Pressure. Stroke	Style
4	4	4	Single Upright.	4	3	Double Enclosed Upright.
5	5	5		5	4	
6	6	6		6	4	
7	7	7		6	5	
8	6	4	Double Enclosed Upright.	6	7	
9	6	5		7	5	
10	7	5		7	7	

PRICES ON APPLICATION.

STEEL PRESSURE BLOWERS.

"STURTEVANT."

Table of Speed, etc., Applied to Cupola Furnaces.

No. Of Blower	Diam. Inlet	Diam. Outlet	No. of Square Inches of Blast required for one Forge Fire.	Cub. Ft. Air per min.	Speed	Pressure in ounces	Horse Power required	POWER SAVED BY REDUCING THE SPEED AND PRESSURE OF BLAST					
								Speed.	Oz. Press.	H. P.	Speed	Oz Press.	H. P.
1	22	1200	4	324	4135	5	0 5						
2	26	1900	5.7	507	3756	6	1	3445	5	0.8	3100	4	0.6
3	30	2880	8	768	3250	7	1.8	3000	6	1.5	2750	5	1.1
4	35	4130	10.7	1102	3100	8	3	2900	7	2.5	2700	6	2
5	40	6178	14 2	1646	2900	10	5.5	2560	8	4	2390	7	3.3
6	46	8900	18.7	2375	2820	12	9.7	2550	10	7.4	2260	8	5.3
7	53	12500	24.3	3353	2600	14	16	2380	12	12.7	2150	10	9.4
8	60	16560	32	4416	2270	14	22	2100	12	16.7	1900	10	12 7
9	72	24840	45	6564	2100	16	35	1960	14	28 4	1800	12	22 5
10	84	33300	60	8880	1815	16	48	1700	14	39.6	1566	12	31.7

One square inch of blast is sufficient for one forge fire, or ninety sq. inches area of cupola furnaces.

In explanation of the above table would say the amount of power given is perfectly accurate in cases where the number of cubic feet of air discharged, and the revolutions of the Blowers are the same as given The Blowers will discharge a much larger number of cubic feet of air if required, but will call for a proportional increase of power.

That portion of the table headed "Power saved by reducing the speed and pressure of Blast," shows that in Foundries where a strong blast is not desirable, the Blower can be run and do good work with very much less power.

Table of speed, etc., applied to Forge Fires.

All the calculations here apply to one particular pattern known as the "Steel Pressure Blower," and do not apply to Fan Blowers or Exhaust Fans.

No. of Blower	Square Inches of Blast and Number of Forges.	4 oz.		5 oz.		6 oz.		7 oz.		8 oz.		9 oz.		10 oz.		11 oz.		12 oz.		13 oz.	
		Revs. per min	H. P. required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required	Revs. per min	H. P required
		Cubic feet of air per min		Cubic feet of air per min		Cubic feet of air per min		Cubic feet of air per min		Cubic feet of air per min.		Cubic feet of air per min.		Cubic feet of air per min.		Cubic feet of air per min.		Cubic feet of air per min.		Cubic feet of air per min	
1	5	3725	800 0.5	1																	
2	7	3103	501 0.7																		
3	10	2456	720 1	2763	810 1.4																
4	14	2224	1008 1.4	2470	1134 1.9																
5	20	1814	1440 2	2026	1620 2.8	2215	1780 3.6														
6	26	1619	1872 2.6	1797	2106 3.6	1969	2314 4.7	2009	2196 6												
7	36	1314	2592 3.6	1501	2916 5	1641	3201 6.5	1768	3456 8.8	1898	3708 10.1										
8	46	1200	3312 4.5	1330	3726 6.4	1445	4094 8 4	1565	4416 10.8	1675	4738 13										
9	60	1035	4320 5.9	1146	4860 8.3	1250	5340 10.9	1350	5760 13.9	1448	6180 16.9										
10	80	902	5760 7.9	995	6480 11.2	1085	7120 14.5	1168	7080 18.4	1253	8240 22.5										
Pressure ..		4 oz.		5 oz.		6 oz.		7 oz.		8 oz.		9 oz.		10 oz.		11 oz.		12 oz.		13 oz.	

Parties using Blowers for Blowing Forge Fires, can get much valuable information from this table by reading and comparing carefully; the black figures include all the Speeds and Pressure usually required for Forges. The other figures are merely for reference.

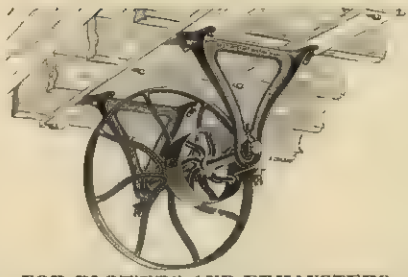
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA PUMP & MFG. Prop'S

COUNTERSHAFTS.

"STURTEVANT."

Fig. 16.



FOR BLOWERS AND EXHAUSTERS.

SIZES AND PRICES COUNTERSHAFTS FOR STEEL PRESSURE BLOWERS

Number of Blowers.	Diameter of Pulley Driving Blower.	Diameter of Pulley driven by Main Belt from Line Shaft	Diameter of Shaft.	Price, with one Driving Pulley.	Price, with two Driving Pulleys
0000	14	5½, 6	⅞	$8.00	$10.00
00					
0	16	6, 7	1	10.00	12.00
1	18	7, 8	1⅛	12.00	15.00
2	21	7, 8, 10	1¼	16.00	20.00
3	24	8, 10, 12	1⅜	22.00	25.00
4	28	10, 12, 14	1½	30.00	35.00
5	32	12, 14, 16	1¾	40.00	45.00
6	36	12, 14, 16, 18	1 15/16	50.00	60.00
7	42	14, 16, 18, 20	2 3/16	68.00	80.00
8, 9	48	18, 20, 22, 24	2 7/16	85.00	100.00
9. 10	54	18, 20, 22, 24	2 11/16	100.00	125.00

Nos. 0000 to 3 inclusive have only one pulley. Nos. 4 to 10 inclusive have two pulleys.

SIZES AND PRICES COUNTERSHAFTS FOR MONOGRAM BLOWERS AND EXHAUSTERS.

Number of Blower.	Diameter of Pulley Driving Blower	Diameter of Pulley driven by Main Belt from Line Shaft	Diameter of Shaft	Price with one Driving Pulley
0000	14	5½, 6	⅞	$ 8.00
00				
0	16	6, 7	1	10.00
1	18	7, 8	1⅛	12.00
2	21	7, 8, 10	1¼	16.00
3	24	8, 10, 12	1⅜	22.00
4	28	10, 12, 14	1½	30.00
5	32	12, 14, 16	1¾	40.00
6	36	12, 14, 16, 18	1 15/16	50.00
7	42	14, 16, 18, 20	2 3/16	68.00
8, 9	48	18, 20, 22, 24	2 7/16	85.00
9. 10	54	18, 20, 22, 24	2 11/16	100.00

SIZES AND PRICES COUNTERSHAFTS FOR STEEL PLATE EXHAUSTERS.

Size of Single Exhausters	Size of Double Exhauster	Diameter of Pulley Driving Blower	Diameter of Pulley driven by Main Belt from Line Shaft	Diameter of Shaft	Price, with one Driving Pulley.
30 inch.		24	8, 10, 12	1⅜	$22.00
35 "	30 inch.	28	10, 12, 14	1½	30.00
40, 45 inch.	35 "	32	12, 14, 16	1¾	40.00
50, 55 "	40, 45 inch.	36	12, 14, 16, 18	1 15/16	50.00
60 "	50, 55 "	42	14, 16, 18, 20	2 3/16	68.00
70, 80 "	60 "	48	18, 20, 22, 24	2 7/16	85.00

Pad Locks.

Wm. Wilcox Mfg. Co.'s.

No. 0000.

No. 000.

No. 00.

No. 0.

No.	Size	Per Dozen	Description
		List. Net.	
0000	2 inch.	$2.15	Self-Locking Spring Shackle, Assorted Keys.
000	2½ inch.	3.10	Raised Bushing, without Drop.
00	2¾ inch.	3.75	Plain, with Brass Drop.
0	2¾ inch.	4.05	Raised Bushing, with Brass Drop.

Half Dozen in a Box.

Condensed List of Pad Locks.

William Wilcox Manufacturing Company's.

With Comparative Numbers of Other Makers.

Wm Wilcox Manufacturing Co.	List 1894.	Yale & Towne	Russell & Erwin	Sargent & Co	Bevan Goodham & Mott	Norwich Lock Co
0000	$2.15	0000	5000	120	0000	0000
000	3.10	000	2000	200	000	000
00	3.75	00	200	201	00	00
0	4.05	0	201	202	0	0
1	4 65	1	202	301	1	1
2	5.25	2	203	302	2	2
2–2K	6.10	2–2K	203-2K	302-2K	2-2K	2–2K
3	5.60	3	204	303	3	3
4	6.35	4	205	315	4	4
5–2K	8.05	5–2K	206–2K	315 2K	5-2K	5 2K
14–2K	11.55	14–2K	314–2K	347-C-2K	14–2K	
2300–2K	11.20	1162–2K				
2400–2K	9.30	1077–2K	1203–2K	305 2K		
2500–2K	11.80	1004–2K		344 2K	2004–2K	
2600–2K	12.40	1003–2K		319 2K	2003–2K	
2800–2K	13.50					
2900–2K	10.80		1206–2K	700-2K		421-2K
3011	4.20	1037	1001	607	2038	416
3012–2K	10.25					
3013–2K	5.60	1021–2K	220–2K	203 2K	2021–2K	40 2K
3015–2K	9.30	1001–2K		355 2K	2001–2K	45 2K
3029	18.65	1014		349	2014	
3029–2K	20.50	1014–2K		349 2K	2014–2K	
3038–2K	9.50		1241–2K	348 2K		
3043–2K	13.50	1055–2K	1246–2K	409 2K	2055–2K	1133–2K
3047–2K	8.95					
3048–2K	11.20	1036–2K	216–2K	405–2K	2057–2K	
3060	10.35					
3060–2K	11.90					
3050–2K	9.35					
3051 2K	11.50					
3052–2K	13.50					
3053 2K	14.60					
3054 2K	16.65					

Pad Locks.

CUTS FULL SIZE

No. 1.

No. 2.

No. 3.

No. 4.

No.	Size.	Per Dozen		Description
		In	Nt	
1	2½ inch.	$ 4 65		Plain, with Brass Drop.
2	2½ inch.	5.25		Brass Drop, Brass Bushing, 4 Changes.
2–2K	2½ inch.	6.10		Same as above, with 2 Keys.
3	2½ inch.	5.60		Brass Drop, Brass Bushing, 4 Changes.
4	2½ inch.	6.35		Heavy, Brass Drop, Brass Bushing, 6 Changes.

Half Dozen in a Box.

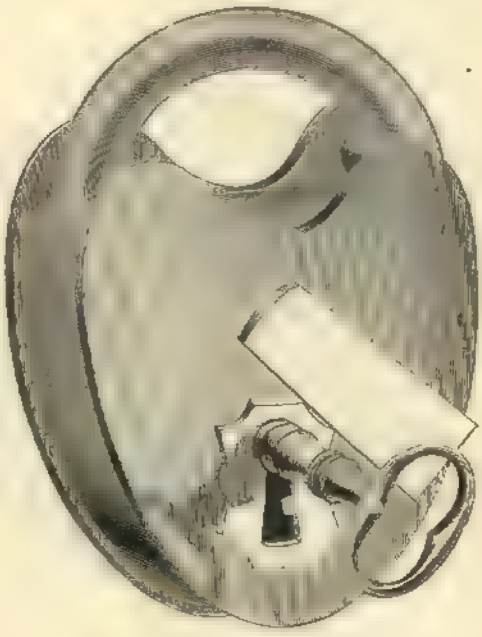
Pad Locks.

CUTS FULL SIZE

No. 2400.

No. 2300.

No. 3060.



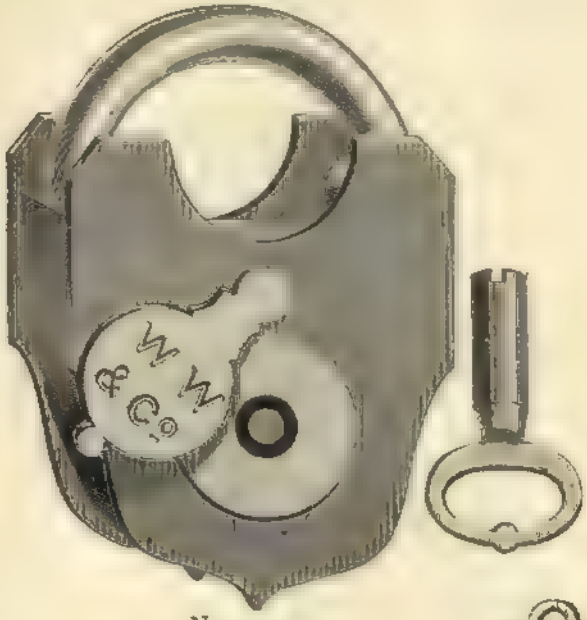
No. 5.

No	Size	Per Dozen. List	Net	Description
5 2K	2½ inch	$8 05		2 Keys, Brass Drop and Bushing, 2 Wheels, 12 Changes.
2300-2K	2¾ inch.	11 20		2 Keys, Brass Drop and Bushing, 4 Wards, Patent Keys.
2400-2K	3 inch.	9 30		2 Keys, Brass Drop and Bushing, 4 Wards, Patent Keys, 8 Changes, Brass Drop and Bushing, Extra Fine Tumbler, Patent Wards, Fancy Wide Bit Keys, 12 Changes.
3060	2½ inch.	10 35		Same as above, with 2 Keys.
3060-2K	2½ inch	11 90		

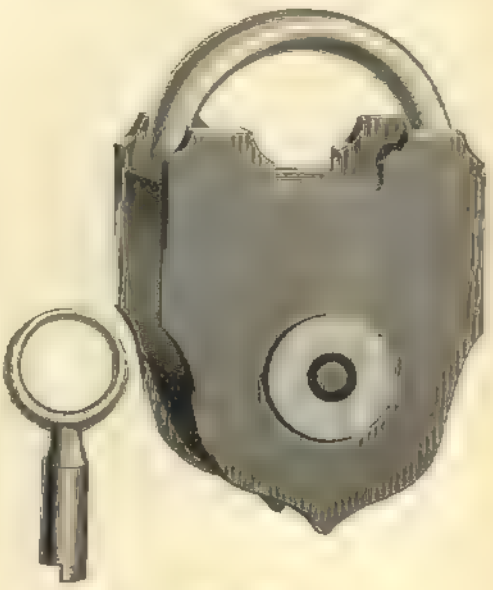
Half Dozen in a Box.

Pad Locks.

CUTS FULL SIZE



No. 3015.



No. 3013.

No. 2800.

Two Keys with each Lock.

No. 2900.

No.	Size.	Per Dozen	Description
2800-2K	2½ inch	$13 50	2 Keys, Brass Bushing, Brass Wards and Wheels, Double Chamber, Double Bitted Keys 6 Changes.
2900-2K	2½ inch	10 80	2 Keys Engraved Drop, Brass Wheels, Rotating Hub, Steel Keys, 8 Changes.
3013-2K	2¼ inch	5 60	2 Keys, Brass Bushing, Cylindrical Key, 6 Changes.
3015-2K	2½ inch	9 30	2 Keys, Brass Drop and Bushing, Cylindrical Key 12 Changes.

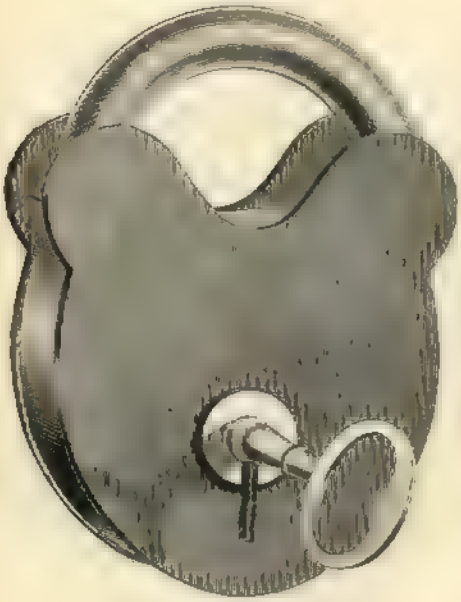
Half Dozen in a Box.

Pad Locks.

CUTS FULL SIZE

No. 3012

No. 3011.



No. 2500.

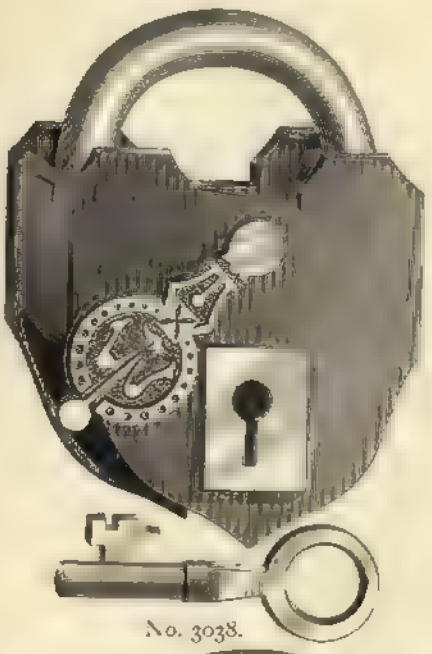
Two Keys with each Lock.

No. 2600.

No.	Size.	Per Dozen. List.	Per Dozen. Net	Description.
2500–2K	2½ inch.	$11.80		2 Keys, Brass Bushing, 3 Wards, Patent Keys. 12 Changes.
2600–2K	2½ inch.	12 40		2 Keys, Brass Drop and Bushing, Patent Wards and Keys. 12 Changes.
3011–2K	2 inch	5.45		2 Keys, Brass Bushing, Rotating Key Hub, 6 Changes.
3012–2K	2¼ inch.	10.25		2 Keys, Brass Bushed, Patent Rotating Hub, Spring Shackle, Double Bitted Steel Keys.

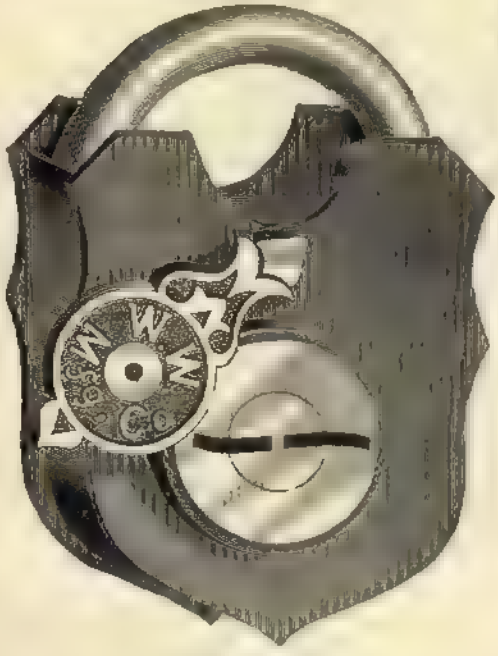
Half Dozen in a Box.

Pad Locks.



No. 3038.

No. 3048.



No. 3043

Two Keys with each Lock.

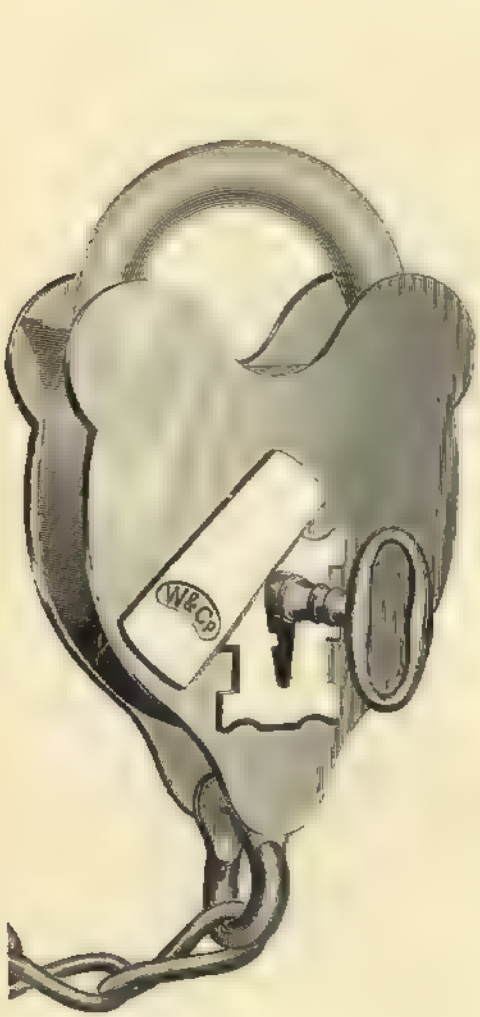
No. 3047.

No.	Size.	Per Dozen. Net.	Description.
3038-2K	2¼ inch.	$9.50	2 Keys, Fancy Drop, Brass Bushing, Solid Wheel and Bridge Wards, Nickel Plated Keys, 4 Changes.
3043-2K	2½ inch.	13.50	2 Keys, Fancy Drop, Brass Bushing, Revolving Key Pin, Spring Shackle, Self Locking, Double Chamber, Double Bitted Keys, all Different
3047-2K	2½ inch	8.95	2 Keys, Brass Bushed, Solid Wheel Wards, Nickel Plated Key, 6 Changes.
3048-2K	2¾ inch	11.20	2 Keys, Brass Bushed, Extra Fine Tumbler, Patent Wheel and Bridge Wards, Fancy Key, 24 Changes

Half Dozen in a Box

Pad Locks.

CUTS FULL SIZE



No. 14

No. 3029.

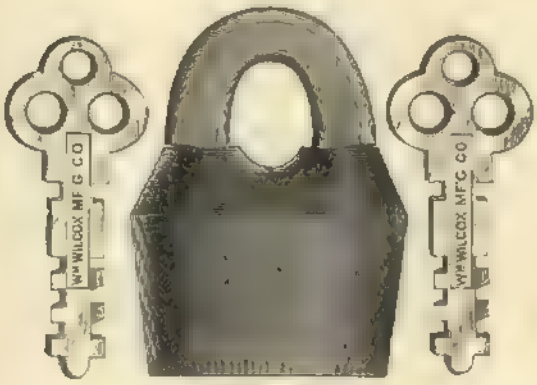
No.	Size	Per Dozen.		Description
		List	Net	
14–2K	2½ inch.	$11.55		2 Keys, Brass Drop and Bushing, Spring Shackle.
3029	2⅝ inch.	18.65		Extra Fine Spring Shackle, Brass Rivets, 3 Bridge Wards, 2 Tumblers, with Chain, 24 Changes.
3029–2K	2⅝ inch.	20.50		Same as above, with 2 Keys.

Half Dozen in a Box.

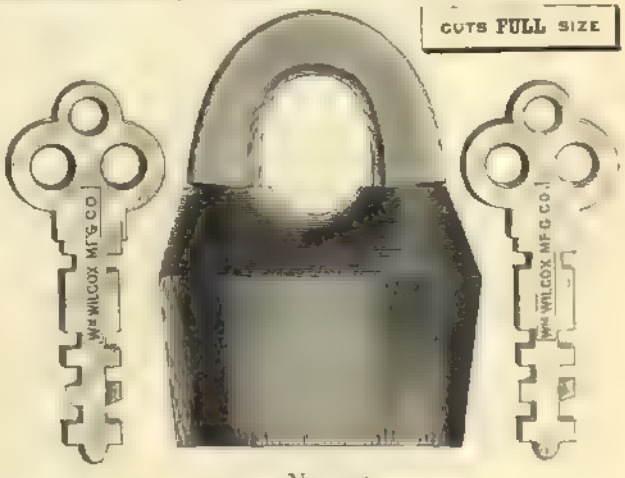
Extra Fine Scandinavian Padlocks.

Wm. Wilcox Manufacturing Co.'s

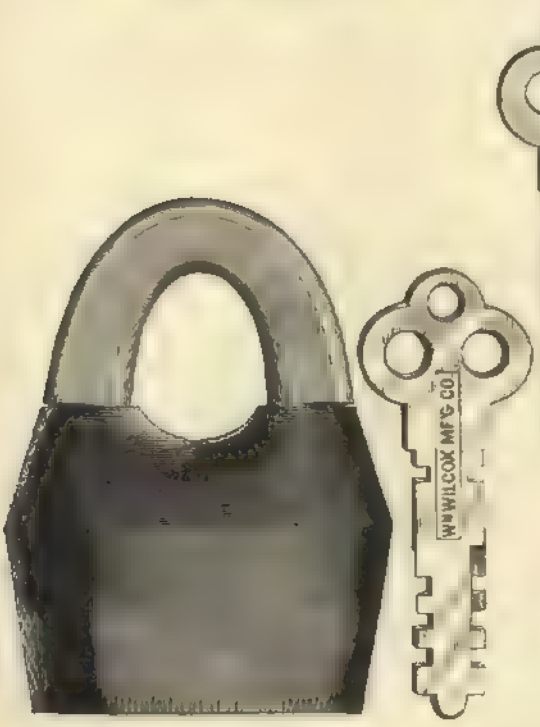
CUTS FULL SIZE



No. 3050.

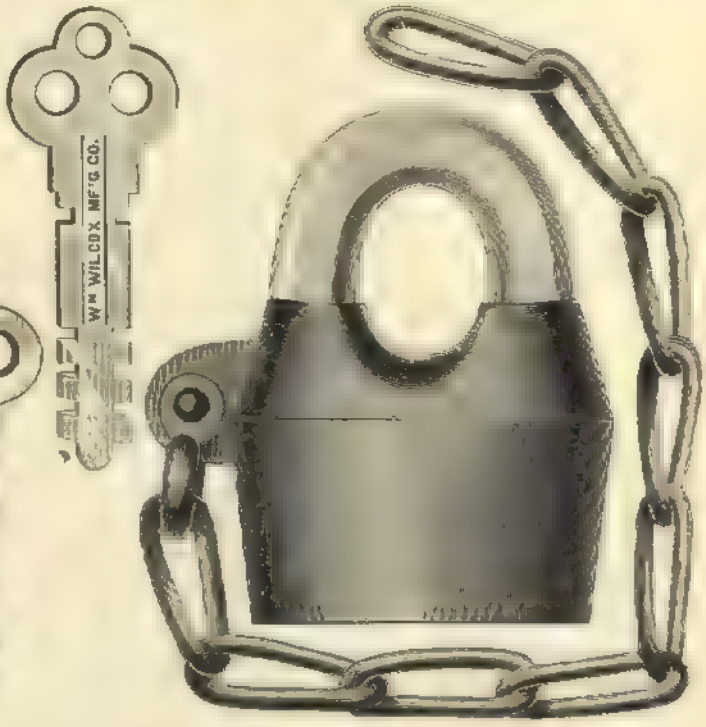


No. 3051.



No. 3052.

Two Keys with each Lock.



No. 3054.

No.	Price Per Dozen		Description
	Iron	Nickel	
3050	$9.35		Malleable Hasp, Secured, Wrought Tumblers, Nickel Plated Flat Steel Keys, 24 Changes.
3051	11.50		Malleable Hasps, Secured, Wrought Tumblers, Nickel Plated Flat Steel Keys, 24 Changes.
3052	13.50		Malleable Hasps, Secured, Wrought Tumblers, Nickel Plated Flat Steel Keys, 24 Changes
3053	14.60		Same as No. 3051, with Chain
3054	16.65		Same as No. 3052, with Chain

Half Dozen In a Box.

Pad Locks.

Key-Locking Scandinavian.

CUTS FULL SIZE

No. 112.

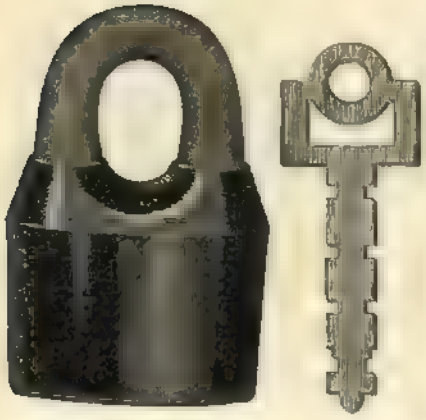
No. 111.

No. 110.

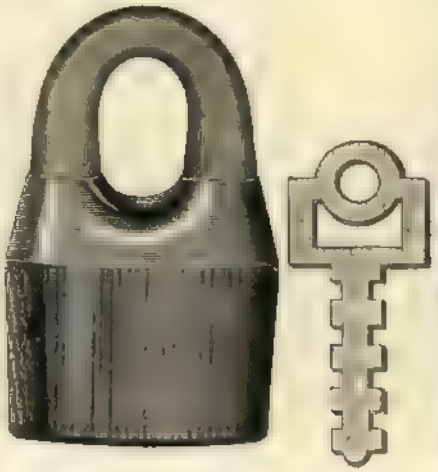
Crimson Finished Case. Two Keys with each Lock

No.	Per Dozen. List.	Net.	Description
110	$ 9 00		Iron, Horizontal Revolving Tumblers, Polished Shackle.
111	11 00		Iron, Horizontal Revolving Tumblers, Polished Shackle
112	13 00		Iron, Horizontal Revolving Tumblers, Polished Shackle.

Half Dozen in a Box.



No. 210.



No. 211.

No. 212.

Extra Fine Black Japan Finish. Two Flat Steel Keys with each Lock

No.	Per Dozen. List.	Net.	Description
210	$12.00		Iron, all Malleable, Secure Shackle.
211	14.00		Iron, all Malleable, Secure Shackle.
212	16 00		Iron, all Malleable, Secure Shackle.

Half Dozen in a Box.

Pad Locks.

CUTS FULL SIZE

Solid Steel Cases.

No. 140.

No. 150.

No. 160.

Two Steel, Drilled, Pipe Keys with each Lock.

No.	Size	Per Dozen List,	Per Dozen Net.	Description
140	1⅝ inch.	$1.60		Solid Steel Case, Spring Shackle.
150	1⅞ inch.	1.80		Solid Steel Case, Spring Shackle.
160	2¼ inch.	2.00		Solid Steel Case, Spring Shackle.

Half Dozen in a Box.

Solid Bronze Cases.

No. 906.

No. 907.

No. 908.

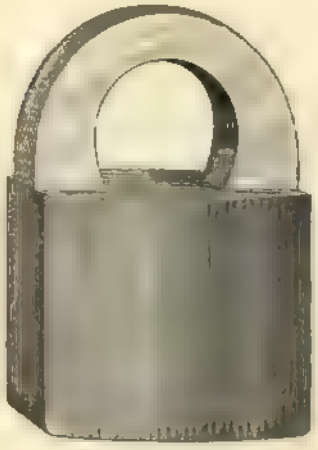
Two Bronze, Drilled, Pipe Keys with each Lock.

No.	Size.	Per Dozen List,	Per Dozen Net.	Description
906	1⅝ inch.	$3.00		Solid Bronze Case, Spring Shackle.
907	1⅞ inch.	3.50		Solid Bronze Case, Spring Shackle.
908	2¼ inch.	4.00		Solid Bronze Case, Spring Shackle.

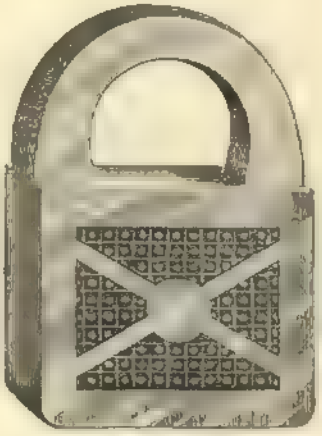
Half Dozen in a Box.

Pad Locks.

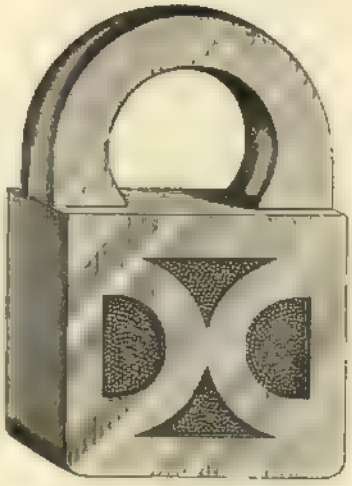
CUTS FULL SIZE



No. 506



No. 303.

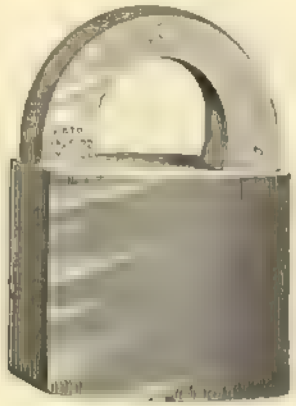


No. 427.

Two Flat Steel Keys with each Lock.

No.	Size.	Per Dozen. List.	Per Dozen. Net.	Description
506	1½ x 1¼	$3.50		Steel Case, Bower-Barffed.
303	1½ x 1¼	3.00		Bronze Metal, Spring, Self-locking
427	1⅝ x 1⅜	5.00		Bronze Metal, Oval Case.
427C	1⅝ x 1⅜	8.00		Same as 427, with Chain.

No. 524.



No. 418.

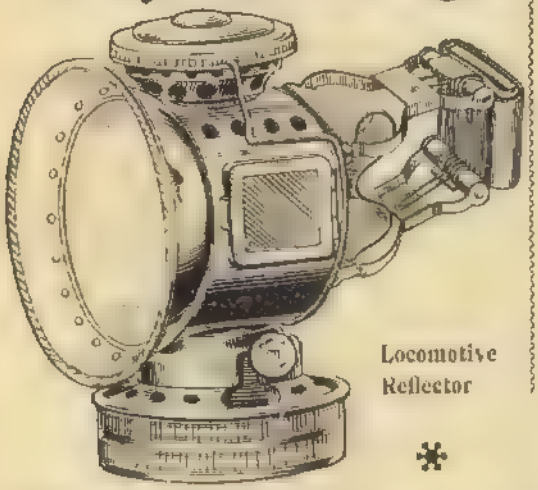
No. 406.

Two Nickel Plated Flat Steel Keys with each Lock.

No.	Size.	Per Dozen List.	Per Dozen Net.	Description.
524	1⅝ x 1⅜	$3.00		Steel Case, 3 Tumblers, Self-locking.
418	1⅝ x 1⅜	4.00		Bronze Metal, 3 Tumblers, Self-locking.
406	1⅝ x 1⅜	6.00		Bronze Metal, 3 Tumblers, Self-locking.

Half Dozen in a Box.

20TH CENTURY Bicycle Head Light



Locomotive Reflector

Burns Kerosene
Keeps Lighted

ALUMINUM-BRONZE-NICKEL

Also as a **Driving Lamp**

Can be clamped on any dash or side rods of any vehicle at any angle with special ball joint attachment.

Send for circular. Electrotypes for Catalogues '96 furnished on application

BETTS PAT. HEAD LIGHT CO.
10 Warren St., New York

Twelve Taking Telling Talking Points ON **1896 Orients**

Construction Strong
Never go Wrong
Will sell ahead of any High-Grade wheel with *Less Argument and Talk*
Strongly Advertised
Strongly Guaranteed
We back up all we claim

Vim Tires
Stand the Racket

The Waltham Mfg. Co

240 Broadway, New York City

Write for Terms

High Grade and Medium Grade
...WHEELS for the Trade

Surely Get Quotations ! !

High Grade NEW MAIL

Greatest Demand and Popularity in 1895

See '96 Models. Also

Templar,	28	In.,	man's wheel,	$60 00
Atlanta,	28	"	ladies' "	60 00
Red Cloud,	26	"	boys' "	50 00
White Wings	26	"	girls' "	50 00
Wheeler,	24	"	boys'	40 00
Midget,	24	"	girls'	40 00

Discount for quantities. Send for Catalogue.

WM. READ & SONS
107 Washington St. *BOSTON*

NIAGARA FALLS DID IT

The first practical result of the great power plant at the Falls is a

Great Reduction in Aluminum

Aluminum Ware

is now brought within the reach of people of moderate means.

Write for Revised List and Discounts
Get In Orders Early for the Holiday Trade

SIDNEY SHEPARD & CO.
Buffalo, N. Y.

C. SIDNEY SHEPARD & CO.
Chicago

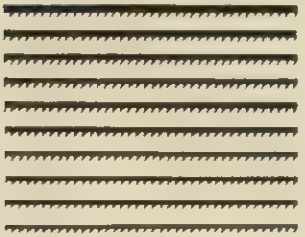
CHARLES W. WELLS, New England Sales Agent, No 90 Canal St., Boston, Mass.

JUAN H. ZAMORANO, Mexican Sales Agent Avenida Morelos, 23, City of Mexico

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SAW BLADES.

Fig. 1065.



Scroll Saw Blades.

Extra Quality Scroll Saw Blades.

12 inches long		$3.00	per dozen
14	" "	3 25	"
16	" "	3.50	"
18	" "	3.75	"

Finest Quality Fay Scroll Saw Blades.

8 inches long		$3.25	per dozen
9	" "	3.50	"
10	" "	3.75	"
11	" "	4.00	"
12	" "	4.25	"
13	" "	4 50	"
14	" "	4 75	"
16	" "	5 25	"

Star Hack Saw Blades.

The blades in the list below are our standard goods with 14 teeth to the inch. We also make the 8, 9, 10, 11 and 12 inch blades with 23 teeth to the inch for cutting tubing, thin sheets of metal and for brass work, the prices of each kind being the same Both kinds have a good set. In filling orders, we shall always put in the coarse blades, unless the fine ones are particularly named

Length of blade	6	7	8	9	10	11	12	6 to 9 assorted.
Price, per dozen	55c.	60c.	65c	70c.	85c.	95c.	$1.05	.65.
" per gross	$6.60	7.20	7.80	8.40	10 20	11.40	12.60	7.80

Fig. 1066.

Eureka Flexible Back Hack Saw Blades.

For general machinists' use—cutting iron, steel, brass, etc Made from 24 gauge stock, 15 teeth to an inch. 6, 7 and 8 inch blades are $\frac{5}{8}$ inch wide; 9, 10, 11 and 12 inch blades are $\frac{1}{2}$ inch wide The fine teeth, for tubing and sheet metal, are exactly the same gauge and width in every respect, excepting that they are made 21 teeth to an inch.

Length in inches	6.	7	8	9	10.	11	12
Per dozen	$0 55	0 60	0 65	0.70	0.85.	0.95	1 00

Crescent all Hard Blades.

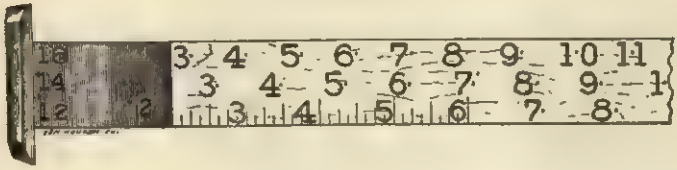
Made from 24 gauge stock, 15 teeth to an inch. 6, 7 and 8 inch blades are $\frac{3}{8}$ inch wide, 9, 10, 11 and 12 inch blades are $\frac{1}{2}$ inch wide The fine teeth are exactly the same gauge and width in every respect, excepting that they are made 21 teeth to an inch, a thoroughly serviceable and satisfactory blade.

Length in inches	6	7	8	9	10.	.11.	12
Per dozen	$0 55	0 60	0.65	0.70	0.85.	0.95	1 00

Yankee Hack Saw Blades **Double Edge**—latest thing out. Same list as Crescent.

"HICKORY" BOARD RULES.

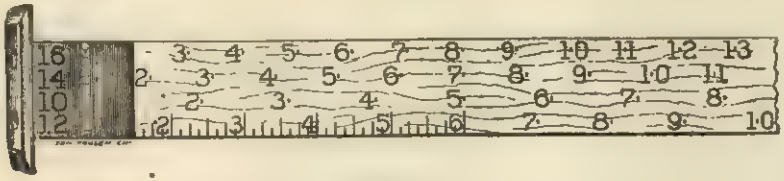
Fig. 1067.



THREE TIER.

No. 448, Style No. 1, 3½ feet, Inspectors' Board Rules, Extra Heavy Brazed Heads, Steel Caps and Brass Shoulders.....Per dozen, $27 00
No. 449, Style No. 2, 3 feet, Board Rules, Extra Heavy Brazed Heads " 25.00
No. 450, " No. 3, 3 " " " Brazed Heads " 23.00
No. 451, " No. 4, 3 " " " Patent Socket Heads " 21.00

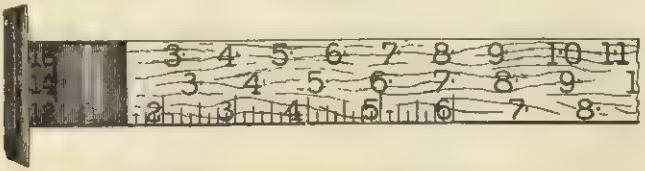
Fig. 1068.



FOUR TIER.

No. 452, Style No. 7, 3 feet, Board Rule, Patent Socket Head.....Per dozen, $23.00
No. 453, " No. 8, 3 " " " Brazed Heads " 25.00
No. 454, " No. 13, 3 " " and Log Rule Combined, Brazed Heads " 28.00

Fig. 1069.



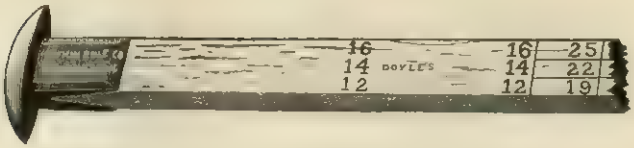
SPRING STEEL BOARD RULES.—Nickel-Plated.

No. 455, Style No. 52, 3 feet, three Tier, Spring Steel Board Rule.....Per dozen, $36.00
No. 456, " No. 51, 3½ " " " " " Inspectors' Rule " 42.00

QUEEN CITY SUPPLY CO

"HICKORY" LOG RULES.

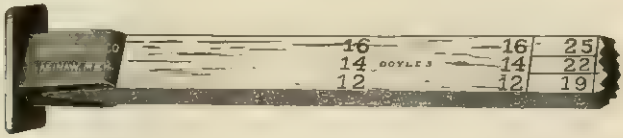
Fig. 1070.



PLAIN HEAD.

No 442, Style No. 19, Plain Head Log Rule, Figured 48 inches, with 8 inch Handle, Full Length 4 feet, 8 inches.
Per dozen ..... $25.00.

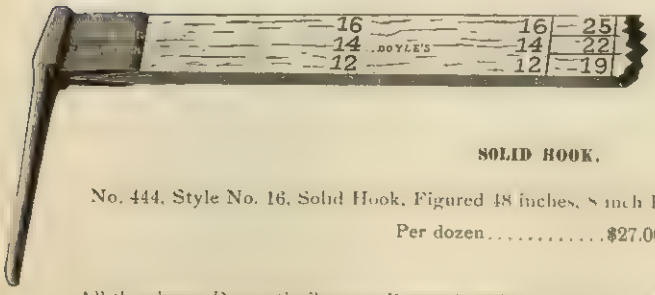
Fig. 1071.



SQUARE HEAD.

No 443, Style No. 14, Square Head, Figured 48 inches, 8 inch Handle, Full Length 4 feet 8 inches.
Per dozen..... .....$27.00

Fig. 1072.



SOLID HOOK.

No. 444, Style No. 16, Solid Hook, Figured 48 inches, 8 inch Handle, Full Length 4 feet 8 inches
Per dozen.....$27.00.

All the above, Doyle, Scribner or Decimal Scale. Doyle Scale is regular, and will be sent unless otherwise ordered Can furnish Rules with any scale or length on short notice.

LOG CALIPERS.

Fig. 1073.

No. 26. STEEL LOG CALIPER.

No. 460. This Caliper is made of Steel, Nickel-plated, and will caliper from a 6 inch to a 36 inch log.

Price.....each, $15 00

Fig. 1074.

No. 25. LOG CALIPER.

No. 459. With sliding jaw, measures diameter, and scales number of feet in log.

The beam is made from clear cedar, with the figures burned into it. The jaws are of maple, brass tipped, Made with any scale of measurements. In ordering state scale wanted and length of logs to be measured.

Price .....each, $8.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

LUMBERING TOOLS.

"BLUE LINE."

Morley Bros.

Fig. 1093.

CANT HOOKS.

With Hand-forged Clasps.

Fig. 1094 shows our regular style Cant Hook, with Hand-forged Clasp, and is the Tool most commonly known to the trade.

Handle is either Hard Maple, Hickory or Second Growth White Ash, made from selected timber, and thoroughly air seasoned.
Hook is of Hammered Crucible Cast Steel, with heavy upset head, either round or duck bill or chisel point.
Bolt is of Steel with hexagon head and nut and square under head to prevent its turning.
Toe Ring is connected with Clasp by a piece of half oval Wrought Iron.
Clasp is made of Steel, and is hand-forged.

Hooks for 2⅜ and 2¾ in. Cant Hooks are made of 1 x $\frac{7}{16}$ in. Steel.
" 3 " " " " 1 x ½ " "

Price List Cant Hooks with Hand-forged Clasps.

With Hard Maple Handles, and either style Hook.

No. 241, 2⅜ in. x 4, 4½, 5 or 5½ ft. Handles . . . . . Per dozen, $26.00
No. 242, 2¾ in. x 4½, 5, 5½ or 6 ft. " . . . . . " 28.00
No. 243, 3 in. x 5, 5½ or 6 ft. " . . . . . " 30.50

With Hickory Handles, and either style Hook.

No. 244, 2⅜ in. x 4, 4½, 5 or 5½ ft. Handles, per doz. $27.50
No. 245, 2¾ in. x 4½, 5, 5½ or 6 ft. " " 29.50
No 246, 3 in. x 5, 5½ or 6 ft. " " 32.50

Fig. 1094.

With Second Growth White Ash Handles, and either style Hook.

No. 247, 2⅜ in. x 4, 4½, 5 or 5½ ft. Handles $30.00
No 248, 2¾ in. x 4½, 5, 5½ or 6 ft. " 32.00
No. 249, 3 in. x 5, 5½ or 6 ft " 34.50

Light Cant Hooks for Mill Carriages.

No. 250, (Fig. 1094), 2⅜ in. x 4 or 4½ ft. Hard Maple Handles, per doz., $26.00

Order by number and specify length of Handle and style of Hook.

LUMBERING TOOLS.

"BLUE LINE."

Morley Bros.

CANT HOOKS.

With Malleable Iron Clasps.

Fig. 1095.

Handle is made of Hard Maple, Hickory or Second Growth White Ash, from carefully selected timber, and thoroughly air seasoned.

Hook is hand-forged of Hammered Crucible Cast Steel, with heavy up-set head, and either round or duck bill or chisel point.

Clasp is made of the best Malleable Iron. Bolt is Steel, with hexagon head and nut, and square under head to prevent turning.

Toe Ring is made of Malleable Iron, with strap connecting it with Clasp, same as in other Cant Hook.

Hooks for 2⅜ and 2¾ inch Tools are made of 1 x $\frac{7}{16}$ inch Crucible Cast Steel.

Price List Cant Hooks with Malleable Iron Clasps.

Fig. 1096.

With Hard Maple Handles and either style Hook.

No. 251, 2⅜ in. x 4½, 5 or 5½ ft. Handles	Per dozen,	$23.75
No. 252, 2¾ in. x 4½, 5 or 5½ ft. "	"	25.75

With Hickory Handles and either style Hook.

No. 253, 2⅜ in. x 4½, 5 or 5½ ft. Handles	Per dozen,	$25.25
No. 254, 2¾ in. x 4½, 5 or 5½ ft. "	"	27.25

With Second Growth White Ash Handles and either style Hook.

No. 255, 2⅜ in. x 4½, 5 or 5½ ft. Handles	Per dozen,	$27.75
No. 256, 2¾ in. x 4½, 5 or 5½ ft. "	"	29.75

Order by number and specify length of Handle and style of Hook.

LUMBERING TOOLS.

BLUE LINE.

Morley Bros.

CANT HOOKS.

Fig 1097

With Malleable Open Sockets.

This Tool is made with Clasp, Toe Ring and Wear Iron in one piece It has given great satisfaction wherever used, because of its strength and durability, and can be very easily repaired in case of breakage of Handle.

Handle is either Hard Maple, Hickory or Second Growth White Ash, made from selected timber, and thoroughly air seasoned.

Hook is hand-forged, made of Hammered Crucible Cast Steel, with heavy upset head and either round, duck bill or chisel point.

Socket is made of the best Malleable Iron.

Bolt is of Steel, with hexagon head and nut, and square under head to prevent turning.

Hooks for 2⅝ in. Cant Hooks are made of 1 x $\frac{7}{16}$ in. Crucible Cast Steel.
" " 2¾ " " " " 1 x $\frac{7}{16}$ " " "

Price List Malleable Open Socket Cant Hooks. **Fig. 1098.**

With Hard Maple Handle and either style Hook.

No. 257, 2⅝ in. x 4½, 5 or 5½ ft. Handles, per doz..... $24.00
" 258, 2¾ in. x 4½, 5 or 5½ ft. Handles..... ... 26.00

With Hickory Handles and either style Hook.

No 259, 2⅝ in. x 4½, 5 or 5½ ft Handles .. Per dozen $25.50
" 260, 2¾ " x 4½, 5 or 5½ ft. " . . . . . " 27 50

With Second Growth White Ash Handles and either style Hook.

No 261, 2⅝ in. x 4½, 5 or 5½ ft. Handles..... Per dozen, $28.00
" 262, 2¾ in. x 4½, 5 or 5½ ft. Handles..... " 30.00

Order by number and specify length of Handle and style of Hook.

LUMBERING TOOLS.

"BLUE LINE."

Morley Bros.

CANT HOOKS.

Fig. 1099.

With Malleable Iron Clip Clasps.

This tool is one of our later patterns, designed to fill a long felt want for a Cant Hook for general use. It is very simple in construction, and in case of breakage the Irons can be fitted to almost anything in the shape of a Handle.

Handle is either Hard Maple, Hickory or Second Growth White Ash, made from selected timber, and thoroughly air seasoned.
Hook is hand forged, made of Crucible Cast Steel, with heavy upset head and either round or duck bill or chisel point.
The Clip Clasp is fastened by Bolts passing through the Handle and through a Clip, giving proper bearing on back of Handle, which insures great strength and durability.
Toe Ring is held in place by a half-oval Weir Iron, turned up at lower end, under the nib of Toe Ring, and with the upper end passing under Clip Clasp and bolted through.
Bolt is of Steel, with hexagon head and nut, and square under head to prevent its turning.

Price List Clip Clasp Cant Hooks.

With Hard Maple Handles, and either style Hook.

No. 263, 2⅜ in. x 4½, 5 or 5½ ft.	Handles	Per dozen, $22.50
No. 264, 2¾ in. x 4½, 5 or 5½ ft.	"	" 24.50
No. 265, 3 in. x 5, 5½ or 6 ft,	"	" 27.00

Fig. 1100.

With Hickory Handles, and either style Hook.

No. 266, 2⅜ in. x 4½, 5 or 5½ ft.	Handles	Per dozen, $24.00
No. 267, 2¾ in. x 4½, 5 or 5½ ft.	"	" 26.00
No. 268, 3 in. x 5, 5½ or 6 ft.	"	" 29.00

With Second Growth White Ash Handles, and either style Hook.

No. 269, 2⅜ in. x 4½, 5 or 5½ ft.	Handles	Per dozen, $26.50
No. 270, 2¾ in. x 4½, 5 or 5½ ft.	"	" 28.50
No. 271, 3 in. x 5, 5½ or 6 ft.	"	" 31.00

Order by number and specify length of Handle and style of Hook.

LUMBERING TOOLS.

"BLUE LINE."

Fig. 1101.

PIKE POLES WITH PIKE AND HOOK.

Fig. 1102.

PIKE POLES WITH PIKE ONLY.

Poles are made of fine selected White Ash.—Pikes and Hooks are hand-forged from *one piece* of Hammered Crucible Cast Steel, tangs being ½ inch square and driven into a $\frac{7}{16}$ inch round hole by same process used in driving Picks in Peavies, and are guaranteed not to pull out. Pikes can also be made to screw in if specially ordered.—Ferrules are made of Norway Iron, and are seamless.

PRICE LIST PIKE POLES.

With Pike and Hook.

		Per doz.
No. 272,	Pike Poles, with Pike and Hook 12 ft	$20.00
No. 273,	" " " " 14 "	22.00
No. 274,	" " " " 16 "	25.50
No. 275,	" " " " 18 "	30.50
No. 276,	" " " " 20 "	37.50

With Pike Only.

		Per doz.
No. 277,	Pike Poles, with Pike only, 12 ft	$17.50
No. 278,	" " " 14 "	19.50
No. 279,	" " " 16 "	23.00
No. 280,	" " " 18 "	28.00
No. 281,	" " " 20 "	35.00

Batteau or Setting Poles.

		Per doz
No. 282,	Batteau or Setting Poles (Pike each end) 12 ft	$28.50
No. 283,	" " " " 14 "	31.00
No. 284,	" " " " 16 "	34.50

Pike Poles (not Ironed.)

		Per doz
No. 285,	Pike Poles, not Ironed, 12 ft	$ 9.00
No. 286,	" " " 14 "	12.00
No. 287,	" " " 16 "	15.00
No. 288,	" " " 18 "	20.00
No. 289,	" " " 20 "	30.00

Order by number, state length of Pole, and how Ironed.

Fig. 1103.

HAND SPIKES.

Made with Wrought Iron Rings and ¾ inch Hammered Crucible Cast Steel Pick.

No. 295,	2¾ in. x 6 ft. Selected Hard Maple Handles	Per dozen, $30.00
No. 296,	2¾ in. x 7 ft. " " " "	" 32.50
No. 297,	2¾ in. x 6 ft. Hickory Handles	" 31.50
No. 298,	2¾ in. x 7 ft. " "	" 34.00
No. 299,	2¾ in. x 6 ft. Second Growth White Ash Handles	" 34.00
No. 300,	2¾ in. x 7 ft. " " " "	" 36.50

LUMBERING TOOLS.

BLUE LINE.

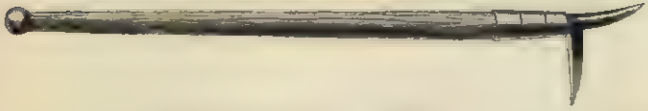
Fig. 1104.

Lumber Sorters' Pickaroons.

This is a light, short tool, strongly made, for sorting and handling Lumber in mills as it comes off the carriage. It is also used for handling slabs and other refuse in the mill. Handle is of Maple Hook and Pike are made of Hammered Crucible Steel. The Ferrules are same as used in Pike Poles.

No. 292. Lumber Sorters' Pickaroons.. .....Per dozen, $12.50

Fig. 1105.



Pickaroon, with Hook and Pike.

Fig. 1106.

Pickaroon, with Hook.

Pickaroons are used for handling Telegraph Poles, Railroad Ties, Ice, in filling ice houses, and for handling Lumber and refuse in saw mill.

Handles are Hard Maple, 36 in. long, 1¾ in. at bulge.

Ferrules are Wrought Iron.

Pikes are of Hammered Crucible Cast Steel, very heavy, and are driven into handle when cold by same process that is used in driving Picks in Peavies.

No. 290. Pickaroons, with Hook and Pike ..... .Per dozen, $20.00
No. 291. " " " only ..... " 18.00

Fig. 1107.

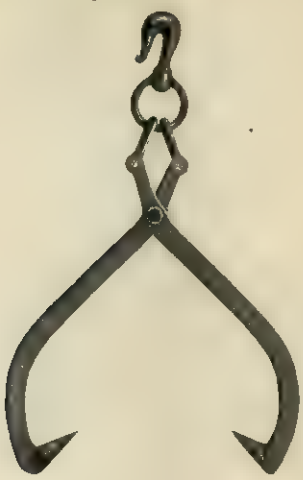
Timber Carrier.

This tool is designed for use in Bridge, Boat or House Building and is especially adapted for use in Railroad Construction Is also used in Lumber Yards, or wherever timbers are handled. It will grapple anything from 8 to 16 inches. The Handle is from 4 to 4½ feet long. The Clasp is 2⅜ inch diameter, and made with Swivel to permit carrying timbers through narrow passageway The Hooks are Hammered Crucible Cast Steel Round Bill, same as used in Peavies. It is the best tool of its kind in the market.

No. 293, with Selected Hard Maple Handles ..... .Per dozen, $39 00
No. 194, with Second Growth White Ash Handles " 43.00

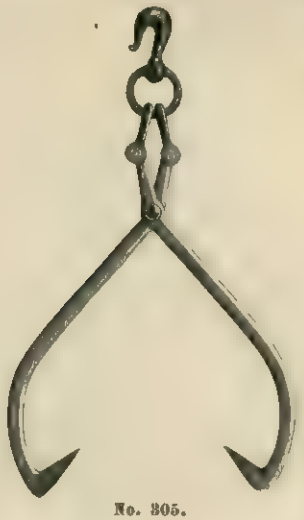
SKIDDING TONGS.

Fig. 1108.



No. 301.

Fig. 1109.



No. 305.

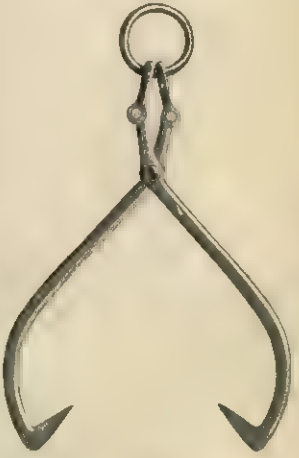
Fig. 1110.

No. 307.

THIS tool was originally designed and put on the market by us and has proved itself to be the *most useful and convenient tool* used in the lumber woods. Our Skidding Tongs are all hand-forged and made of the best Hammered Crucible Cast Steel. To withstand the enormous strain and hard usage to which these tools are subjected the Heads are upset and the Points are made *extra heavy*.

The Clevises, Grab Hooks and Rivets are Steel and made extra strong.

Fig. 1111.



No. 308.

No. 301, 1½ x ⅜	inch	Flat, with Heavy Upset Heads to Open	32	inches		Per dozen,	$ 97.50
No. 302, 1½ x ⅜	"	" " " "	36	"		"	115 00
No. 303, 1¾ x ⅜	"	" " " "	42	"		"	142.50
No. 304, 2 x ⅜	"	" " " "	54	"		"	187 50
No. 305, 1½	"	Octagon " "	32	"		"	100.00
No. 306, 1½	"	" " " "	36	"		"	120.00
No. 307, 1½ x ⅜	"	Flat, with Chisel Points,	32	"		"	90 00
No. 308, 1½	"	Octagon, without Grab Hooks,	32	"		"	95.00

SWAMP HOOKS.

Fig. 1112 | Fig. 1113 | Fig. 1114 | Fig. 1115 | Fig. 1116

No. 309 Square | No. 310 Octagon | No. 311 Flat | No. 312 Rollway Break Hook | No. 313 Loading Hook

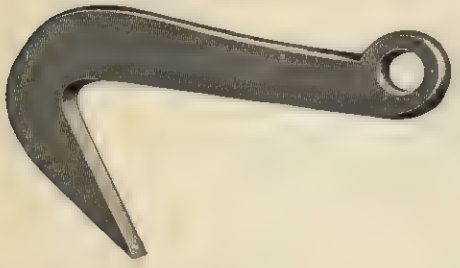
Our Swamp, Rollway Breaking and Loading Hooks are entirely new in pattern. The hooks are all hand-forged, and made of Hammered Crucible Cast Steel. The Rings and Grab Hooks are made of Steel The Heads are upset, and points are made extra heavy and strong.

PRICE LIST.

No. 309 (Fig. 1112), Swamp Hooks, 1 in. Square, Heavy Round Bill Point	Per dozen,	$33.75
No. 310 (" 1113), " 1 in. Octagon, " " "	"	33.75
No. 311 (" 1114), " 1¼ x ⅝ in Flat, Heavy Duck Bill Point	"	33.75
No. 312 (" 1115). Rollway Breaking Hooks, 1½ x ⅝ in. Flat, Duck Bill Point, with Rope Clevis attached	"	42.50
No 313 (Fig. 1116). Loading Hooks, ¾ in. Square, Heavy Round Duck Bill Point	"	19.00

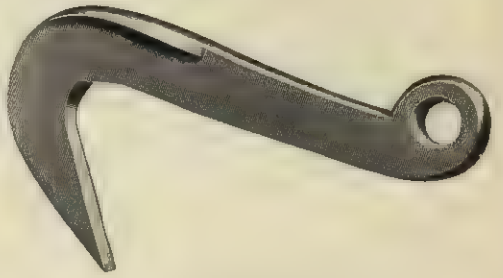
LOGGING DOGS.

Fig. 1117.



Plain.

Fig. 1118.



With Mallet Head.

These cuts represent our heavy Cast Steel Logging Dogs or Hooks, used in lumbering large timber (principally in the South and West) They are used for dogging logs together when hauling in the woods or into the mill. Regular length 10½ to 12 inches. Can make any size wanted.

No. 316 (Fig 1117), Plain Logging Dogs ..... Per dozen, $30.00
No. 317 (Fig. 1118), Mallet Head Logging Dogs ..... " 45.00

Japanned Bird Cages.

No. 1.

No. 2.

No. 3.

NO.	DESCRIPTION.	PER DOZEN.
1	Diameter 7½ inches,	$ 9 50
2	Diameter 8 inches,	10 75
3	Diameter 8½ inches,	12 50

No. 86.

No. 15.

No. 10.

NO.	DESCRIPTION.	PER DOZEN
86	Diameter 8½ inches,	$16 75
15	Diameter 8 inches, Fancy Bottom,	20 25
10	Diameter 9 inches, Fancy Ornamented Bottom,	24 50

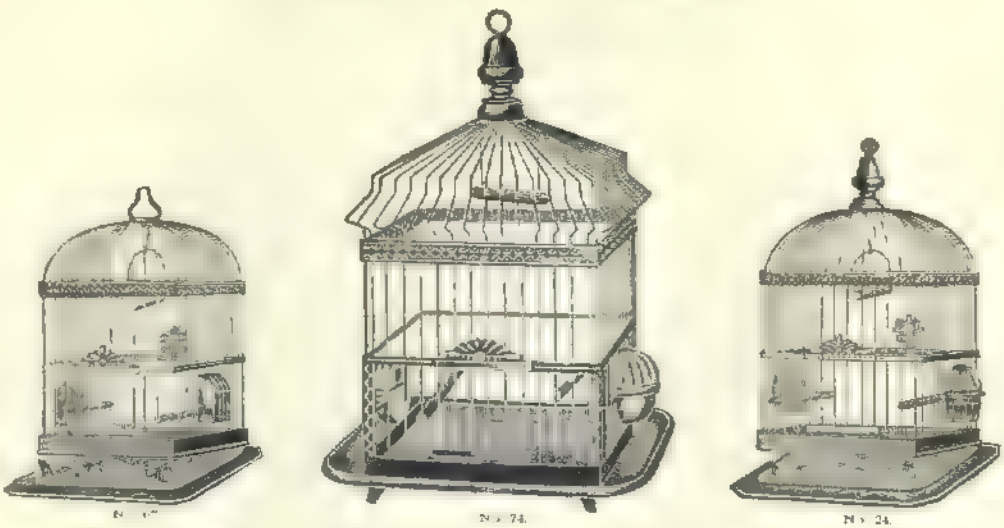
Assorted Case "A," One Dozen Cages

DESCRIPTION.	PER CASE.
Assorted Case "A" contains One Dozen Round, Square and Oblong Cages, including all illustrated on pages 580 and 581. Shipping weight 59 lbs.	$16 00

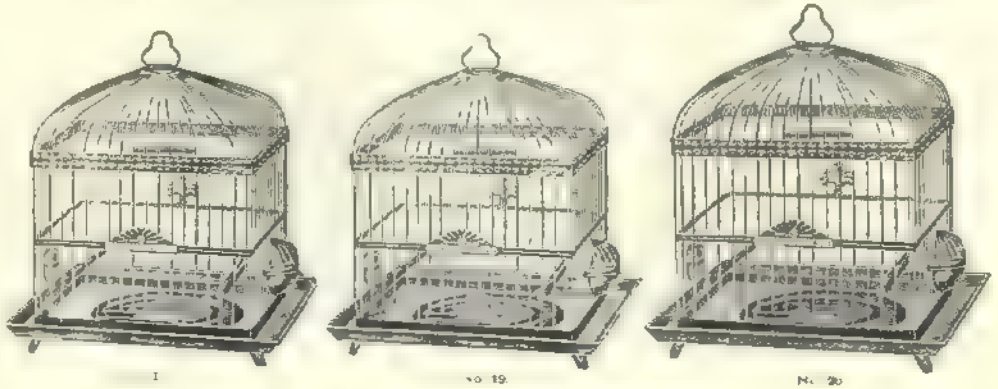
All Japanned Cages are furnished with the "Peerless" Closed-Top Head Cups and Cuttle-Bone Holder.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES.

Japanned Bird Cages.



NO.	DESCRIPTION.	PER DOZEN.
97	7½ × 7½ inches, Stamped Bottom,	$1. 00
74	8¾ × 8¾ inches,	18 50
24	8 × 6 inches, Stamped Bottom,	14 00



NO.	DESCRIPTION	PER DOZEN.
17	7½ × 10 inches,	$13 75
19	8 × 12 inches,	16 75
20	8½ × 11½ inches,	19 00

Assorted Case "A," One Dozen Cages.

DESCRIPTION.	PER CASE
Assorted Case "A" Contains One Dozen Round, Square and Oblong Cages [illegible] illustrated on pages 581 and 581. Shipping weight 50 lbs.	$16 00

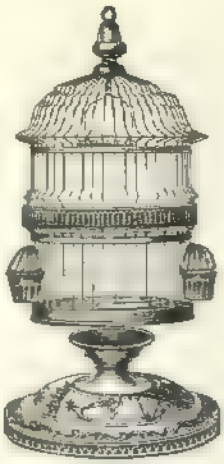
All Japanned Cages are furnished with the "Peerless" Closed Top Seed Cups and Gutter base Perches.

THESE CAGES NOT SEPARATE IN ASSORTED CASES

Japanned Bird Cages.

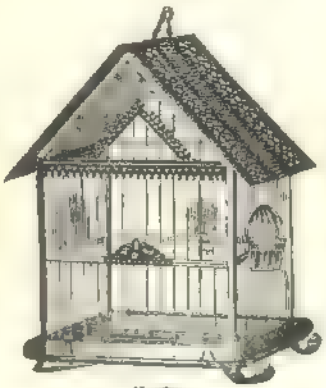
No. 4

No. 5

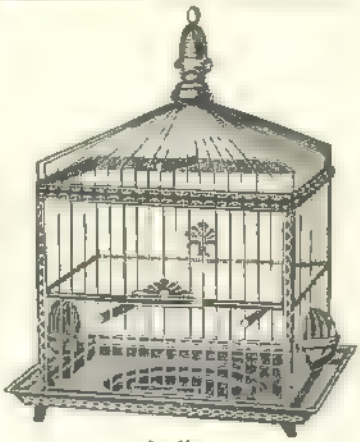


No. 25.

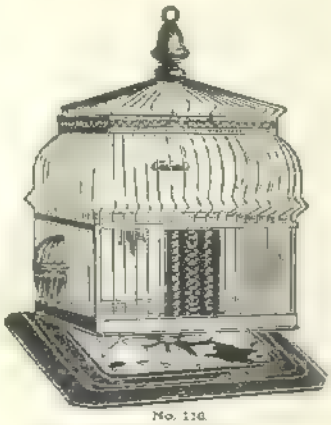
NO.	DESCRIPTION	PER DOZEN.
4	Diameter, 9 inches,	$14 50
5	Diameter, 10 inches,	17 25
25	Diameter, 14 inches,	27 50



No. 78



No. 116.



No. 110.

NO.	DESCRIPTION	PER DOZEN.
78	7½ x [illegible] inches	$22 00
116	[illegible] x 11¾ inches, Fancy Ornamental Bottom,	24 00
110	8½ x 11 inches, Ornamental Bottom	24 00

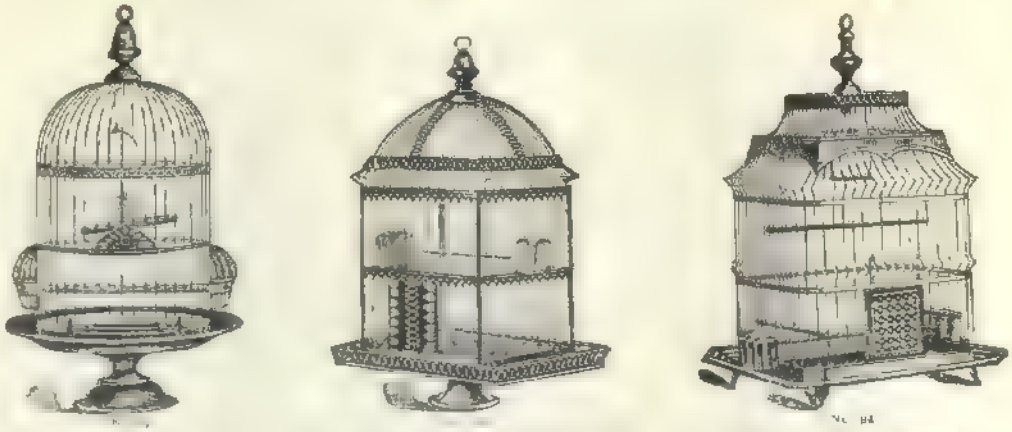
Assorted Case "B" One and One Half Dozen Cages.

DESCRIPTION	PER CASE
Assorted Case "B" Contains One and One Half Dozen Round, Square and Oblong Cages, [illegible] illustrated on Pages 580, 581 and 582. Shipping Weight, 84 lbs.	$27 00

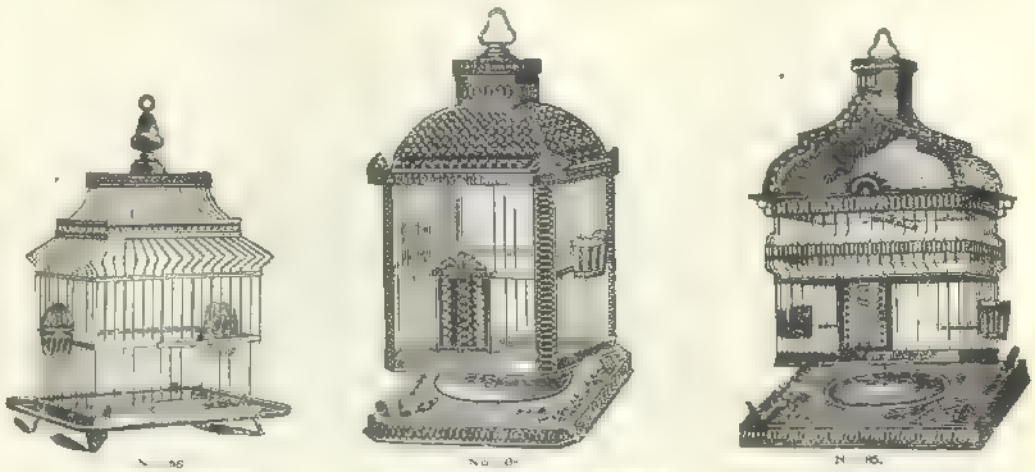
All Japanned Cages are furnished with the "Peerless" Closed Top Seed Cups and Cuttle-bone Holder.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES.

Japanned Bird Cages.



No.	DESCRIPTION.	PER DOZEN.
6	Diameter 8 inches,	$18 75
14	8 × 8 inches, Fancy Ornamented Bottom,	28 00
84	9¾ × 9¾ inches, Fancy Ornamented Bottom,	80 00



No.	DESCRIPTION.	PER DOZEN.
56	7½ × 10½ inches, Fancy Ornamented Bottom,	$26 00
108	9½ × 9½ inches, Fancy Ornamented Bottom,	38 00
85	8 × 11½ inches, Very Fancy Ornamented Bottom,	39 50

Assorted Case "C," Two Dozen Cages.

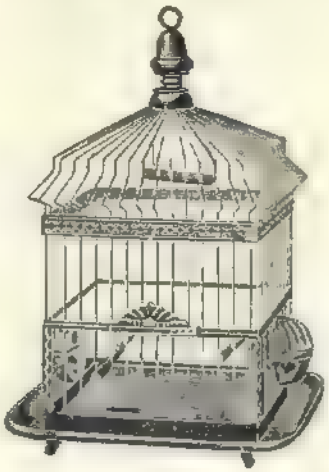
DESCRIPTION.	PER CASE.
Assorted Case "C" contains Two Dozen Round, Square and Oblong Cages, including all the styles on pages 580, 581, 582 and 583. Weight 118 lbs.,	$41 50

All Japanned Cages are furnished with Bee Perches, Covered Cup Seed Cups, Cuttle Bone Holder, Seed Cups and Trimmings packed in separate pasteboard box.

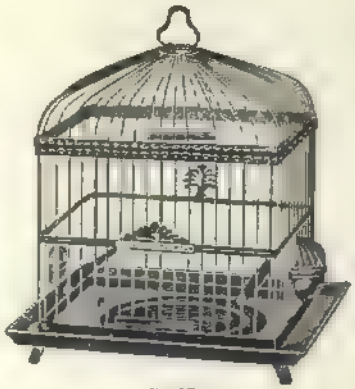
THESE CAGES SOLD SEPARATELY OR IN ASSORTED CASES.

Japanned Bird Cages.

No. 7C



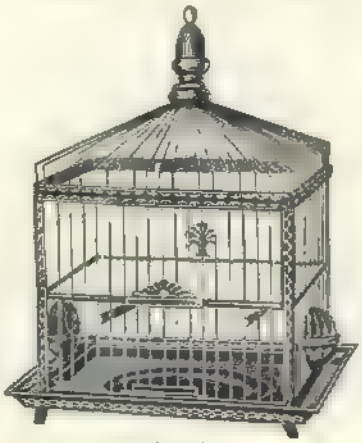
No. 74



No. 17

NO.	DESCRIPTION	PER DOZEN
16	6½ × 8 inches, Stamped Bottom,	$10 75
74	8½ × 8½ inches,	18 50
17	7½ × 10 inches,	13 75

No. 67



No. 116

No. 24

NO.	DESCRIPTION.	PER DOZEN
67	7½ × 7½ inches, Stamped Bottom,	$11 00
116	9½ × 11½ inches, Fancy Ornamented Bottom,	24 00
24	8 × 8 inches, Stamped Bottom,	18 00

Assorted Case "D," One Dozen Cages.

DESCRIPTION.	PER CASE.
Assorted Case D contains One Dozen Square and Oblong Cages, as pictured and illustrated on pages 384 and 385. Shipping Weight 62 lbs.,	$18 50

All Japanned Cages are furnished with the "Peerless" Closed Top Seed Cups and Cuttle-Bone Holder. Seed Cups and Trimmings packed in separate pasteboard Box.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES.

Japanned Bird Cages.

No. 86.

No. 120

No. 108

NO.	DESCRIPTION	PER DOZEN.
86	8×10 inches,	$18 00
120	10×10 inches, Stamped Bottom,	21 50
108	8×10½ inches, Fancy Ornamented Bottom,	19 75

No. 78.

No. 127

No. 119

NO.	DESCRIPTION.	PER DOZEN.
78	7½×9¼ inches,	$22 00
127	8½×11 inches, Stamped Bottom,	22 50
119	8½×11 inches, Stamped Bottom,	22 50

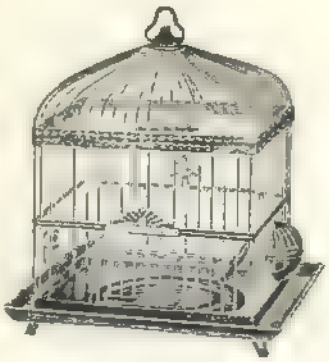
Assorted Case "D," One Dozen Cages.

DESCRIPTION.	PER CASE.
Assorted Case "D" contains one Dozen Square and Oblong Cages, including all illustrated on pages 584 and 585, Shipping Weight, 62 lbs,	$18 50

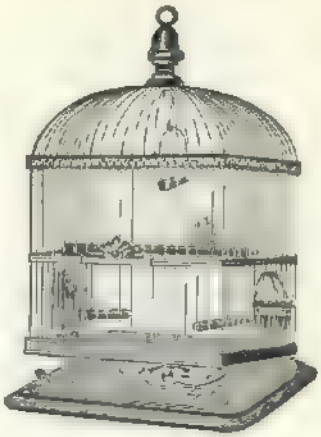
All Japanned Cages are furnished with the "Peerless" Closed Top Seed Cups and Cuttle-bone Holder. Seed Cups and Trimmings packed in separate pasteboard box.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES.

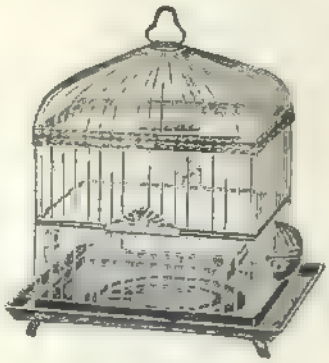
Japanned Bird Cages.



No. 17

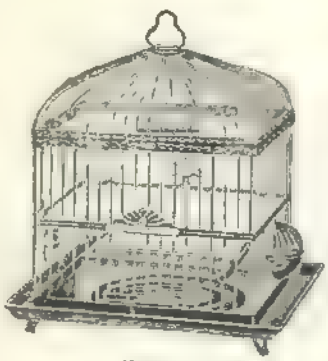


No. 120

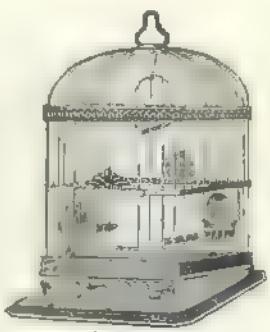


No. 18

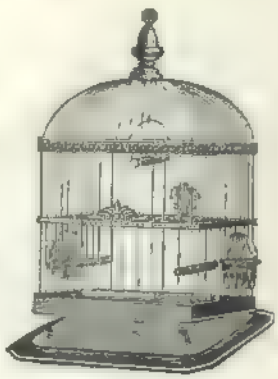
NO.	DESCRIPTION	PER DOZEN
17	7½ x 10 inches,	$13 75
120	11 x 10 inches, Stamped Bottom,	21 50
19	8 x 10 inches,	16 75



No. 16



No. 37



No. 24

NO.	DESCRIPTION	PER DOZEN
1	5½ x 8 inches,	$10 75
37	2½ x 7 inches, Stamped Bottom	11 00
24	8 x 5 inches, Stamped Bottom,	13 00

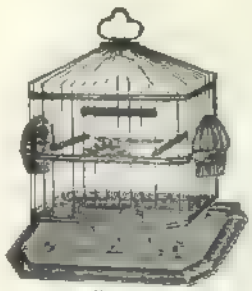
Assorted Case "N" One Dozen Cages.

DESCRIPTION	PER CASE
Assorted Case "N" contains One Dozen Square and Oblong Cages, including all illustrated on pages 586 and 587. Shipping weight 58 lbs.,	$15 00

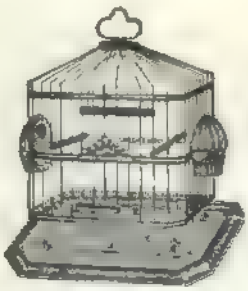
All Japanned Cages are furnished with the Peerless Closed Top Seed Cups and Cuttle-Bone Holder. Seed Cups and Trimmings packed in a separate pasteboard box.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES

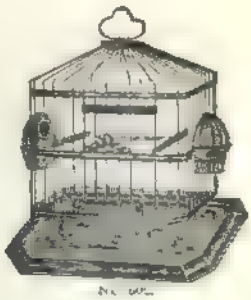
Japanned Bird Cages.



No. 60

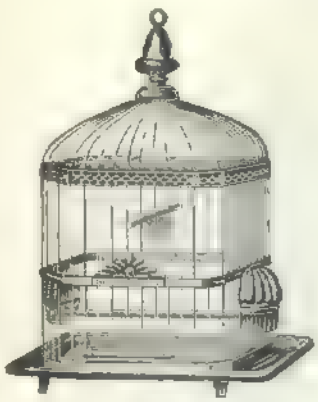


No. 60

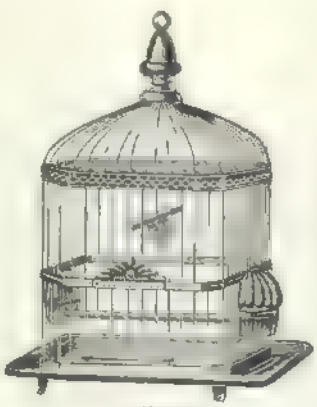


No. 60

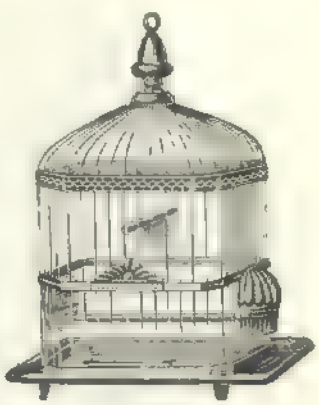
NO.	DESCRIPTION.	PER DOZEN.
600	8 × 9 inches, not sold separate,	$11 00
601	6¾ × 9½ inches, not sold separate,	12 50
602	7½ × 10½ inches, not sold separate,	15 00



No. 500



No. 501



No. 502

NO.	DESCRIPTION.	PER DOZEN.
500	8 × 8 inches, not sold separate,	$14 50
501	8¾ × 8½ inches, not sold separate,	16 75
502	9¼ × 9½ inches, not sold separate,	19 00

Assorted Case "N," One Dozen Cages.

DESCRIPTION.	PER CASE
Assorted Case "N" contains One Dozen Square and Oblong Cages, including all illustrated on pages 586 and 587. Shipping Weight, 58 lbs.,	$15 00

All Japanned Cages are furnished with the "Peerless" Closed-Top Seed Cups and Cuttle-bone Holder. Seed Cup and Trimmings packed in a separate pasteboard box.

THESE CAGES NOT SOLD SEPARATE FROM CLASS.

Japanned Bird Cages.

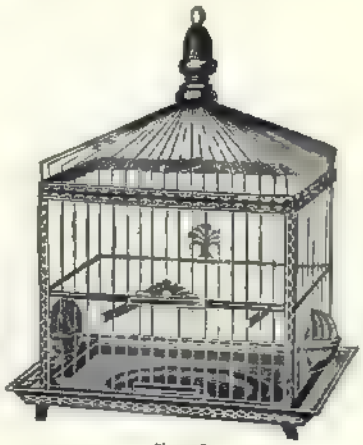
No. 16.

No. 17.

No. 19.

No.	DESCRIPTION	PER DOZEN
16	6½ × 8 inches, Stamped Bottom,	$10 75
17	7½ × 10 inches,	13 75
19	8 × 10½ inches,	16 75

No. 20.



No. 116.

No. 145.

No.	DESCRIPTION.	PER DOZEN.
20	8½ × 11½ inches,	$13 00
116	9½ × 11½ inches, Fancy Ornamented Bottom,	24 00
145	6½ × 9½ inches,	13 75

Assorted Case "F," One-Half Dozen Cages.

DESCRIPTION.	PER CASE.
Assorted Case "F" contains One Half Dozen all Oblong Cages, including all illustrated on this page. Shipping Weight 29 lbs.	$8 50

All Japanned Cages are furnished with the "Peerless" Closed Top Seed Cups and Cuttle-Bone Holder. Seed Cups and Trimmings packed in a separate pasteboard box.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES.

Japanned Bird Cages.

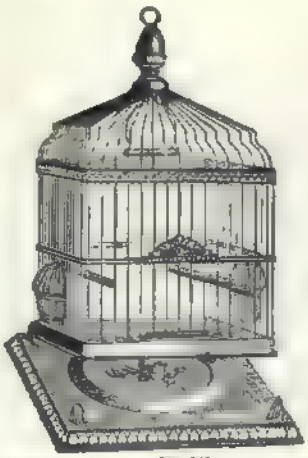
No. 67

No. 24

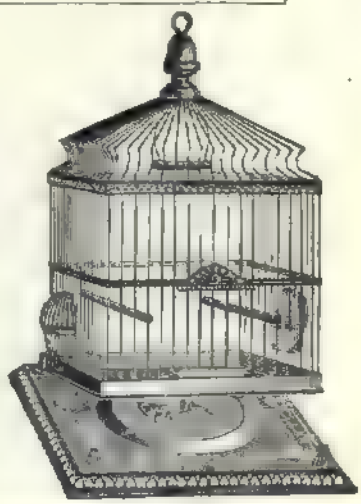
No. 120.

NO.	DESCRIPTION.	PER DOZEN.
67	7¼ × 7½ inches, Stamped Bottom,	$11 00
24	8 × 8 inches, Stamped Bottom,	13 00
120	10 × 10 inches, Stamped Bottom,	21 50

No. 142.



No. 143



No. 44.

NO.	DESCRIPTION	PER DOZEN.
142	8½ × 8½ inches,	$16 75
143	9½ × 9½ inches, Fancy Ornamented Base,	19 00
144	10½ × 10½ inches, Fancy Ornamented Base,	24 00

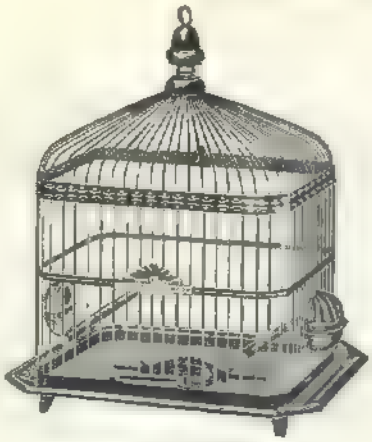
Assorted Case "G" One-Half Dozen Cages.

DESCRIPTION	PRICE.
Assorted Case "G" contains One-half Dozen Assorted Square Cages, including all illustrated on this page. Shipping Weight 20 lbs.	$9 00

All Japanned Cages are furnished with the "Peerless" Closed Top Seed Cups and Cuttle-Bone Holder. Seed Cups and Trimmings packed in separate pasteboard box.

THESE CAGES SOLD SEPARATE OR IN ASSORTED CASES

Japanned Bird Cages.

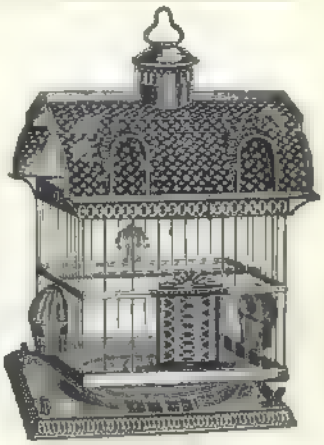


Nos. 610 to 615.

No. 102

No.	DESCRIPTION	PER DOZEN
610	6 × [illegible] inches,	$11 75
611	6½ × 9½ inches,	13 25
612	7½ × 10½ inches,	16 00
613	7½ × 11 inches,	18 00
614	8½ × [illegible] inches,	20 00
615	9½ × [illegible] inches,	22 00
102	7½ × 10 inches, Fancy Ornamented Bottom,	18 00

No. 77



No. 139

No. 48

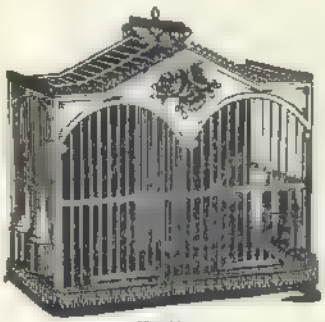
No.	DESCRIPTION	PER DOZEN
77	7½ × 9½ inches	$21 00
139	8 × 10 inches,	22 00
48	7½ × 19 inches, Fancy Ornamented Bottom,	26 00

Assorted Case "K" One-Half Dozen Cages.

DESCRIPTION.	PER CASE.
Assorted Case K [illegible] One Half Dozen Cages, including one each of Nos. 610, 611, 612, 613, 614 and 615. Shipping Weight 30 lbs.	$8 75

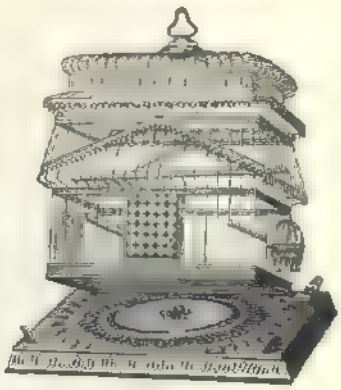
All Japanned Cages are furnished with the "Peerless" Closed-Top Seed [illegible] and Cuttle-Bone Holder, Seed Cups and Trimmings packed in a separate pasteboard box.
THESE CAGES ALL SOLD SEPARATE.

Japanned Bird Cages.



No. 44.

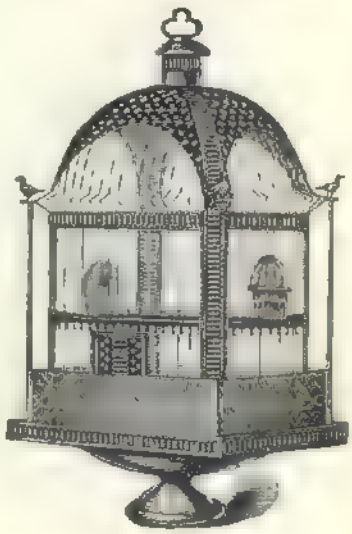
No. 62.



No. 89.

NO.	DESCRIPTION.	PER DOZEN.
44	8×14 inches, with Fountain, Drop and Peerless Seed Cups,	$4 50
62	8×10½ inches, Fancy Ornamented Bottom,	3 00
89	8×10½ inches, Fancy Ornamented Bottom,	2 70

No. 79.



No. 96.

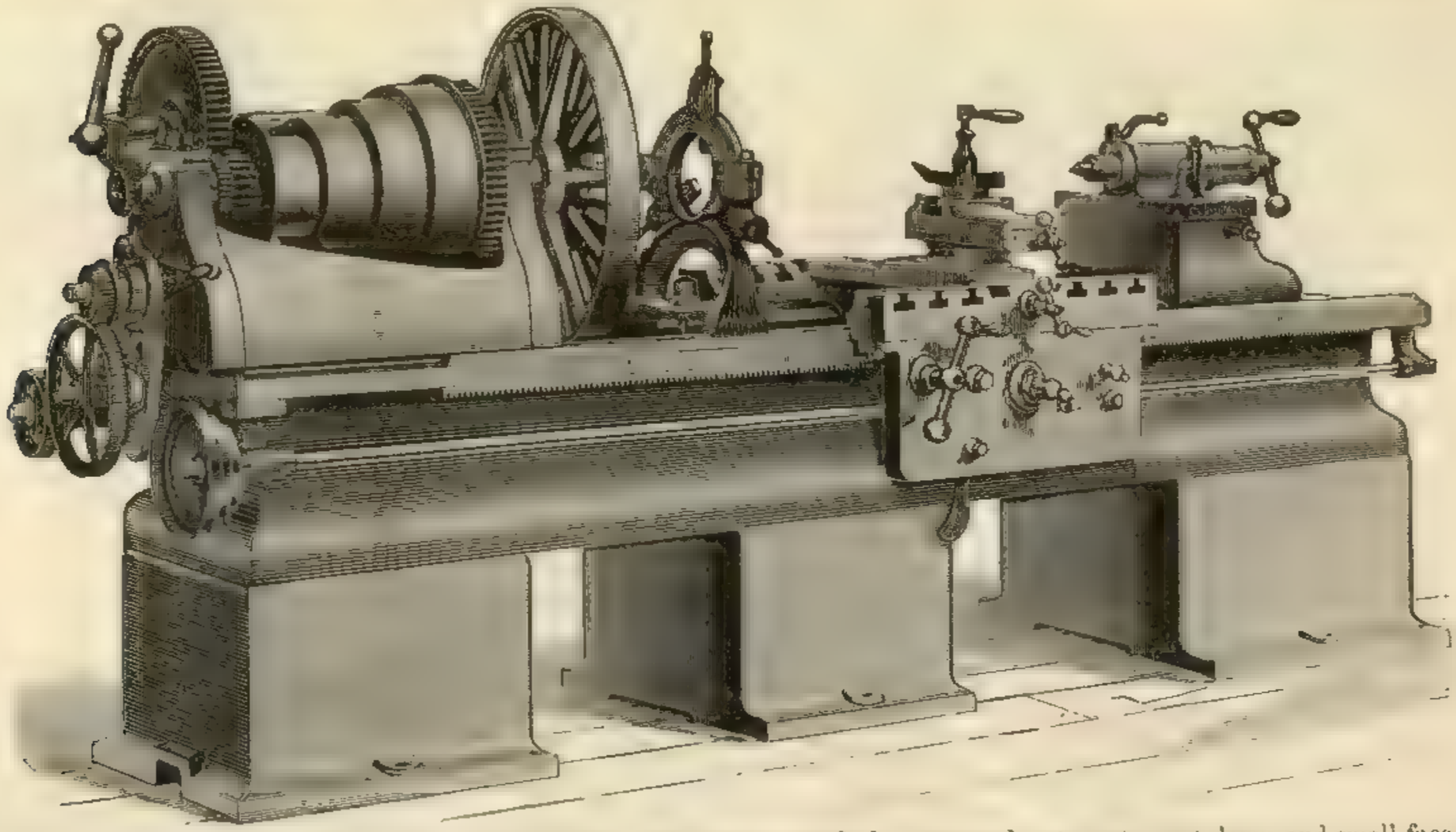
NO.	DESCRIPTION	PER DOZEN
79	8 × 9 inches, Fancy Ornamented Bottom,	$27 50
96	9½ × 9½ inches, with Wire Screen Guards. Very Fancy Ornamented.	5 50

All Japanned Cages are furnished with the "Peerless" Closed-Top Seed Cups and Cuttle Bone Holder. Seed Cups and Trimmings packed in separate pasteboard box.

THESE PRICES SUPERSEDE ALL OTHERS.

24-INCH ENGINE LATHE.

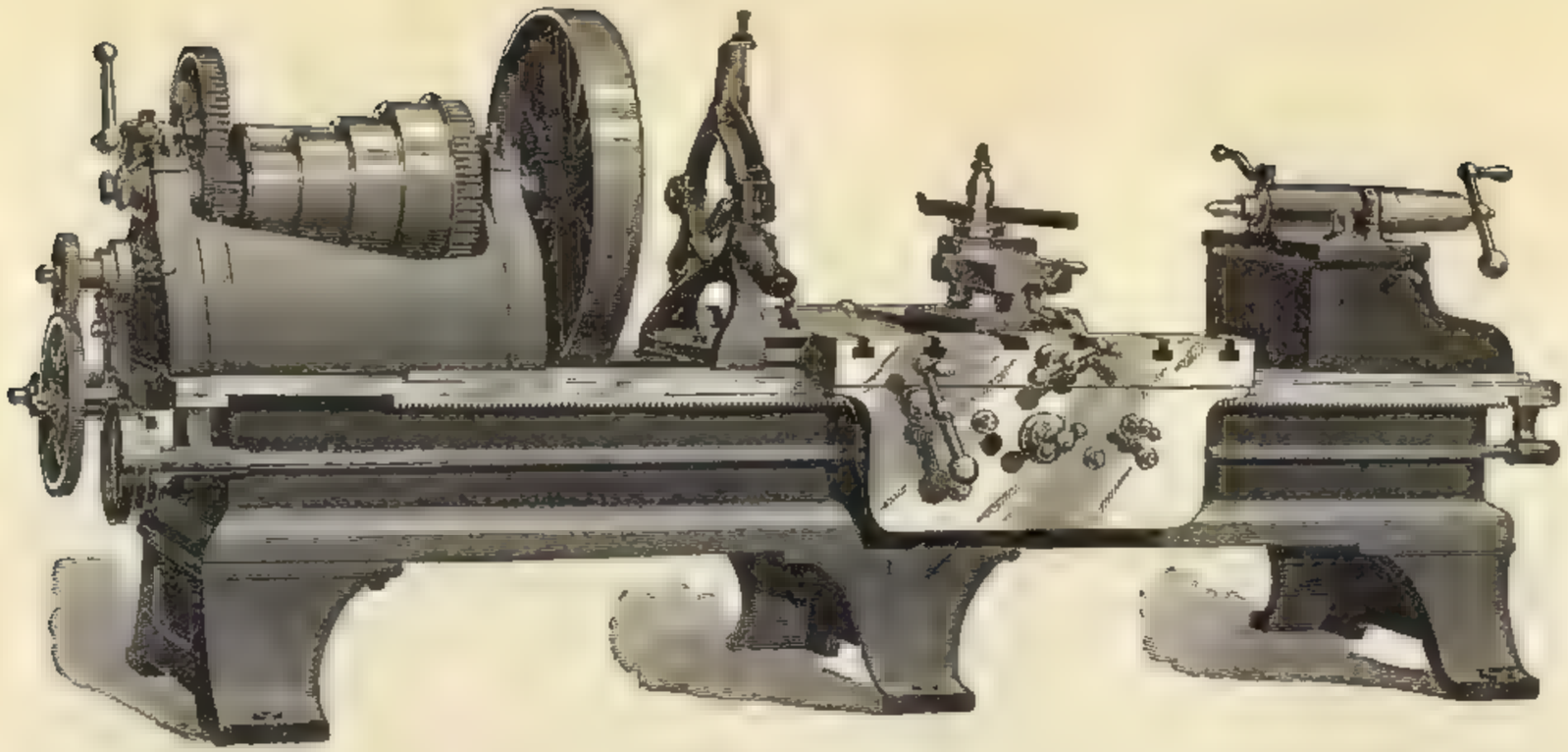
Cut Represents a 24-inch, 10 ft. Lathe, Taking 6 ft. Between Centers. We can Furnish any Length of Bed Desired.



These lathes are back geared, screw-cutting, have rod feed, with power cross feed; compound rest, center rest, large and small face plate, full set of screw gears, side bracket for turning the full swing of the lathe, countershaft with friction pulleys, wrenches, etc.; the spindles are forged steel, and run in bronze metal boxes; the lead screw, feed rod, feed rack and pinion gear for same, as well as all working screws, are steel, the rack and pinion being cut from the solid. Swings 15½″ over the carriage; front bearing of spindle 2¾ x 5½″; the cones carry a 3″ belt, the friction pulleys on countershaft are 16 x 4½″ and should make about 110 revolutions per minute; the carriage has a bearing of 31″ in length on the ways. It will be built with beds as desired up to and including 30′ in length. Weight, with 10′ bed, about 4,000 lbs.

Price, with equipment named above, 10 ft. bed	$680 00
Extra length of bed, per ft.	20 00

30-INCH ENGINE LATHE.



The cut represents a 30″ Engine Lathe on 14′ bed that will swing 21″ over the carriage and take 9′ between centers. Weight about 6,000 lbs.; other lengths of bed furnished as required. The Lathe is back geared, rod feed, screw cutting, with power cross feed. They are simple in design, convenient and quick to adjust, all the parts being made in proportion, with a view to giving the greatest strength. There have been more than a thousand lathes built and sold from this pattern.

The feed is very strong, and can be changed from fine to coarse in an instant. The gearing inside the head is disconnected from the gear on the spindle by a simple movement of a lever, releasing the screw and feed works from motion when filing, polishing, and similar work. The spindles are forged steel and run in bronze metal boxes. The lead screw, feed rod, feed rack, and pinion gear for same, as well as all working screws, are steel, the rack and pinion being cut from the solid. The equipment includes compound rest, center rest, large and small face plate, side bracket for turning the full swing of the lathe, steel countershaft, with improved friction pulleys, wrenches, etc., etc.

The carriages have a solid bearing of 37″ in length on the ways and are gibbed on the inside of the bed and on the back outside. The friction pulleys are 16 x 4½″ and should make about 100 revolutions per minute.

Price, with equipment named above, and 14 ft. bed, $950.00; extra length of bed, per ft., $25.00.

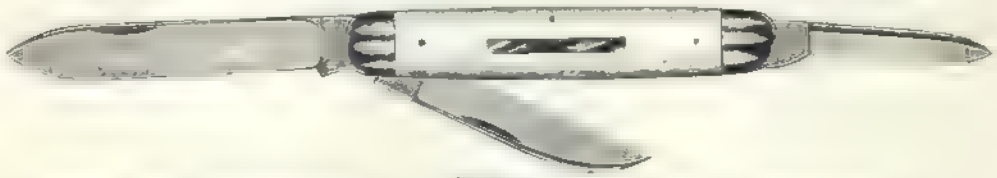
For Larger Lathes, up to 60-inch Swing, of New Patterns and Designs, send for Special Printing and Illustrations.

Pocket Knives.

Hibbard, Spencer, Bartlett & Co.'s, "Our Very Best," Warranted.

No. 685.

No.	DESCRIPTION	PER DOZEN
[illegible]	Three Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 00
[illegible]	Three Blades, Ebony Handle, Brass Lined, Crocus Polished, [illegible] inches,	11 25
[illegible]	Three Blades, Ivory Handle, Brass Lined, Crocus Polished, [illegible] inches,	14 25
[illegible]	Three Blades, Stag Handle, Brass Lined, Crocus Polished, [illegible] inches,	12 75



No. 772

No.	DESCRIPTION	PER DOZEN
7	Three Blades, Ebony Handle, Brass Lined Crocus Polished, 3½ inches,	$12 00
773	Three Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	12 75
772	Three Blades, Ivory Handle, Brass Lined, Crocus Polished, 3½ inches,	14 25

No. 768

No.	DESCRIPTION.	PER DOZEN
764	Three Blades, Cocoa Handle Brass Lined, Crocus Polished, 3⅜ inches,	$ 9 00
766	Three Blades, Ebony Handle, Brass Lined, Crocus Polished, 3⅜ inches,	11 25
768	Three Blades, Stag Handle, Brass Lined, Crocus Polished 3⅜ inches,	12 75
767	Three Blades, Ivory Handle, Brass Lined, Crocus Polished, 3⅜ inches,	14 25
765	Three Blades, Pearl Handle, Brass Lined, Crocus Polished 3⅜ inches,	16 50

No. 774

No.	DESCRIPTION	PER DOZEN
775	Three Blades, Stag Handle, Brass Lined, Crocus Polished, 3⅝ inches,	$13 50
774	Three Blades, Pearl Handle, Brass Lined, Crocus Polished, 3⅝ inches,	15 00

HALF DOZEN IN A BOX.

Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best," Warranted.

No. 421

NO.	DESCRIPTION.	PER DOZEN.
420	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3¼ inches,	$9 00
421	" " Ebony " " " " " 3½ "	9 15

NO.	DESCRIPTION.	PER DOZEN.
484	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 15

NO.	DESCRIPTION	PER DOZEN.
521	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 00

No. 422

NO.	DESCRIPTION.	PER DOZEN.
422	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3¼ inches,	$ 9 00
423	" " Ebony " " " " " 3½ "	9 15
424	" " Stag " " " " " 3½ "	9 40

NO.	DESCRIPTION.	PER DOZEN.
500	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3¼ inches,	$9 75

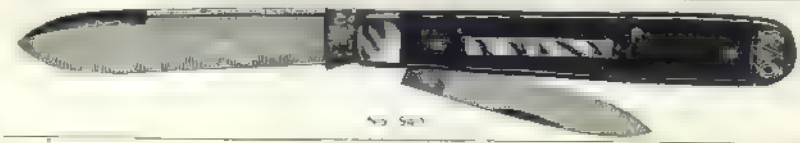
HALF DOZEN IN A BOX

Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best," Warranted.

No. 441.

NO.	DESCRIPTION.	PER DOZEN.
439	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 00
440	" " Ebony " " " " " 3½ "	9 15
441	" " Stag " " " " " 3½ "	9 75
442	" " White Bone " " " " " 3½ "	10 80



No. 540.

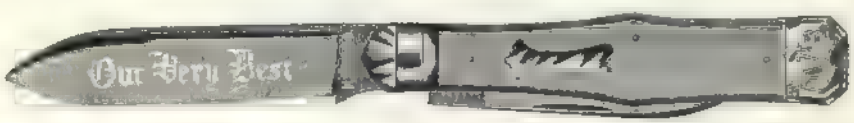
NO.	DESCRIPTION.	PER DOZEN.
540	Two Blades, Ebony Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 [illegible]
541	" " Stag " " " " " 3½ "	9 75
542	" " Ivory " " " " " 3½ "	12 [illegible]

No. 548.

NO.	DESCRIPTION.	PER DOZEN.
546	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 50
547	" " Ivory " " " " " 3½ "	12 00

No. 481.

NO.	DESCRIPTION.	PER DOZEN.
480	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 50
481	" " Ebony " " " " " 3½ "	10 65
482	" " Ivory " " " " " 3½ "	15 00
483	" " Stag " " " " " 3½ "	10 50



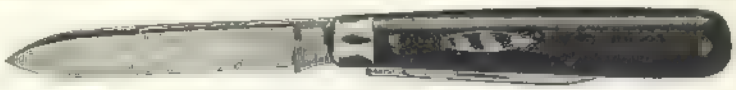
No. 493.

NO.	DESCRIPTION.	PER DOZEN.
491	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 15
492	" " Ebony " " " " " 3½ "	10 80
493	" " Ivory " " " " " 3½ "	15 00
494	" " Stag " " " " " 3½ "	10 90

HALF DOZEN IN A BOX.

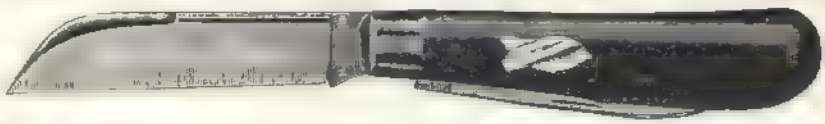
Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best" Warranted.

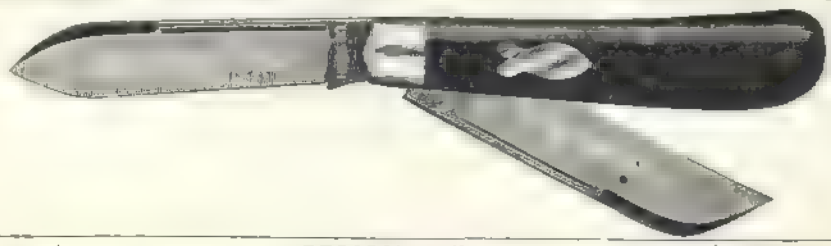


NO.	DESCRIPTION	PER DOZEN.
458	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 7 15
459	" " Ivory " " " " " 3½ "	9 00
460	" " Pearl " " " " " 3½ "	13 50

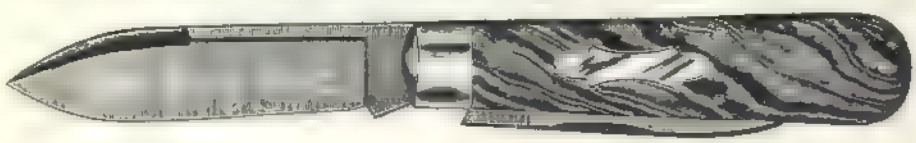
NO.	DESCRIPTION.	PER DOZEN
516	Two Blades, Cocoa Handle, Iron Lined, Crocus Polished, 3½ inches,	$6 00
461	" " " " Brass " " " 3½ "	6 75
462	" " Ebony " " " " 3½ "	6 90



NO.	DESCRIPTION	PER DOZEN.
447	Two Blades, Ebony Handle, Iron Lined, Crocus Polished, 3½ inches,	$6 75
511	" " Stag " Brass " " 3½ "	9 00
514	" " " " " " " 3½ "	7 15



NO.	DESCRIPTION.	PER DOZEN
508	Two Blades, Ebony Handle, Iron Lined, Crocus Polished, [illegible] inches,	$7 [illegible]



NO.	DESCRIPTION.	PER DOZEN.
418	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 4 inches,	$9 00
419	" " Buffalo " " " " " 4 "	9 15
477	" " Cocoa " " " " " 4 " Extra Heavy,	9 00
478	" " Ebony " " " " " 4 " " "	9 15

HALF DOZEN IN A BOX.

Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best," Warranted.

NO.	DESCRIPTION.	PER DOZEN.
463	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3 [illegible]	$7 [illegible]
464	" " Ebony " " " " " 3 "	8 [illegible]
467	" " Stag " " " " " 3 "	8 [illegible]

NO.	DESCRIPTION.	PER DOZEN.
501	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, [illegible] inches,	$6 [illegible]
502	" " Ebony " " " " " [illegible] "	8 80
510	" " White Bone " " " " 3⅜ "	9 75
515	" " Cocoa " Iron " " " Plain Bolster, 3⅜ inches,	9 75

NO.	DESCRIPTION	PER DOZEN
455	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3⅜ inches,	$4 [illegible]
465	" " Ebony " " " " " 3⅜ "	[illegible]

NO.	DESCRIPTION.	PER DOZEN.
453	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3⅜ inches,	$7 [illegible]
454	" " Ebony " " " " " 3⅜ "	7 [illegible]
465	" " White Bone " " " " 3⅜ "	[illegible]

NO.	DESCRIPTION.	PER DOZEN.
489	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, [illegible] inches,	$7 [illegible]
490	" " Buffalo " " " " " [illegible] "	[illegible]

HALF DOZEN IN A BOX.

Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best," Warranted

No. 466.

NO.	DESCRIPTION.	PER DOZEN
464	Two Blades, Buffalo Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 00
464½	" " Stag " " " " " 3½ "	9 75
465	" " Ivory " " " " " 3¼ "	12 00
466	" " Pearl " " " " " 3½ "	18 00

NO.	DESCRIPTION.	PER DOZEN
522	One Spear and one Spatula Blade, Stag Handle, Brass Lined, Crocus Pol'd, 3½ in.,	$11 25

NO.	DESCRIPTION.	PER DOZEN
523	One Spear and one Spatula Blade, Pearl Handle, Crocus Polished, 3½ inches,	$24 00

N

NO.	DESCRIPTION.	PER DOZEN.
467	Two Blades, Buffalo Handle, Crocus Polished, 3½ inches,	$10 90
875	" " Stag " " " 3½ "	11 25
468	" " Pearl " " " 3½ "	21 00

No. 477.

NO.	DESCRIPTION.	PER DOZEN
486	Two Blades, Ebony Handle, Brass Lined, Crocus Polished, 3½ inches,	$12 75
487	" " Stag " " " " " 3½ "	18 50

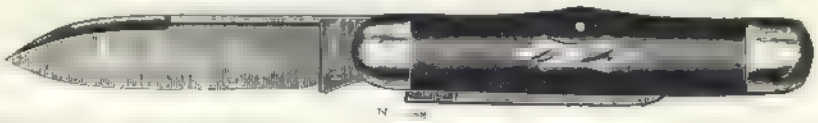
HALF DOZEN IN A BOX

Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best," Warranted.

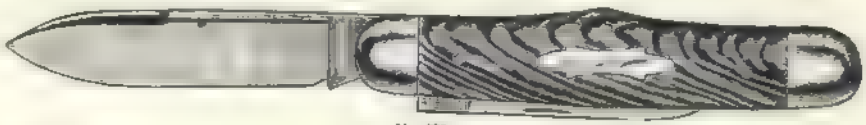
No. 432.

NO.	DESCRIPTION	PER DOZEN
432	Two Blades, Cocoa Handle, Brass Lined, Croton Polished,	$ 5 65
433	" " Ebony " " "	5 80
434	" " Stag " " "	6 40
435	" " Abalone " " "	5 00
435½	" " Ivory " " "	7 75



No. 438.

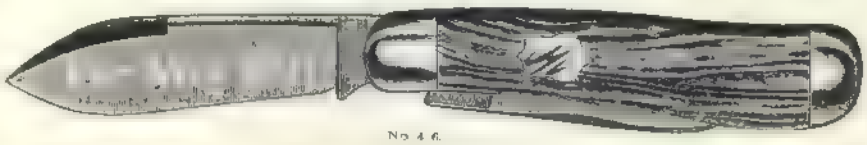
NO.	DESCRIPTION	PER DOZEN.
384	Two Blades, Cocoa Handle, Brass Lined, Croton Polished,	$6 65
386	" " Ebony " " "	8 80
387	" " Stag " " "	9 75



No. 398.

NO.	DESCRIPTION	PER DOZEN.
396	Two Blades, Cocoa Handle, Brass Lined, Croton Polished,	$ 9 75
397	" " Ebony " " "	9 [illegible]
398	" " Stag " " "	10 [illegible]

NO.	DESCRIPTION	PER DOZEN
476	Two Blades, Cocoa Handle, Brass Lined, Croton Polished,	$ 12



No. 4 6.

NO.	DESCRIPTION.	PER DOZEN.
416	Two Blades, Cocoa Handle, Brass Lined, Croton Polished,	$ 00
417	" " Ebony " " "	9 15

HALF DOZEN IN A BOX.

Pocket Knives.

Hibbard, Spencer, Bartlett & Co.'s "Our Very Best," Warranted.

NO.	DESCRIPTION.	PER DOZEN.
461½	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$9 00

No. 462

NO.	DESCRIPTION	PER DOZEN.
461	Two Blades, Dark Wood Handle, Brass Lined, Crocus Polished, 3½ inches,	$8 65
463	" " Ebony " " " " " 3½ "	9 75
463	" " Pearl " " " " " 3½ "	13 50

No. 487

NO.	DESCRIPTION	PER DOZEN.
485	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3⅜ inches,	$7 50
486	" " Ebony " " " " " 3⅜ "	7 [illegible]
487	" " White Bone " " " " " 3⅜ "	8 25
488	" " Stag " " " " " 3⅜ "	8 25

No. 823

NO.	DESCRIPTION	PER DOZEN
821	Two Blades, Ebony Handle, Brass Lined Crocus Polished, 3½ inches,	$7 50
823	" " Cocoa " " " " " 3⅜ "	8 25
470	" " Ebony " " " " " 3⅜ "	8 40
[illegible]	" " [illegible] " " " " " [illegible] "	9 60

No. 470

NO.	DESCRIPTION.	PER DOZEN
470	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3⅜ inches,	$7 65
471	" " Ebony " " " " " 3⅜ "	8 80
472	" " White Bone " " " " " 3⅜ "	9 40

HALF DOZEN IN A BOX.

Pocket Knives.

Hibbard, Spencer, Bartlett & Co's "Our Very Best," Warranted.

No 411.

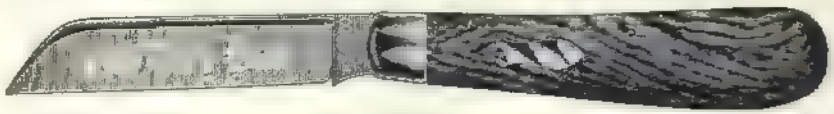
NO.	DESCRIPTION.	PER DOZEN.
157	One Blade, Cocoa Handle, Iron Lined, Crocus Polished, 3¼ inches,	$3 00
519	Two Blades, " " " " " " 3¼ "	4 50
411	" " Ebony " " " " " 3½ "	4 90
444	" " Cocoa " " " " " 3⅝ "	5 25
412	" " Ebony " " " " " 3⅝ "	5 65
448	" " Cocoa " Brass " " " 3⅝ "	6 00

No 153.

NO.	DESCRIPTION.	PER DOZEN
153	One Blade, Cocoa Handle, Iron Lined, Crocus Polished, 3⅜ inches,	$3 40
159	" " Stag " " " " " 3⅜ "	4 15

No 154.

NO.	DESCRIPTION	PER DOZEN.
154	One Blade, Cocoa Handle, Iron Lined, Crocus Polished, 3⅜ inches,	$3 40
160	" " Stag " " " " " 3⅜ "	4 15



No 155.

NO.	DESCRIPTION	PER DOZEN.
155	One Blade, Cocoa Handle, Iron Lined, Crocus Polished, 3½ inches,	$3 40
161	" " Stag " " " " " 3½ "	4 15

No 445.

NO.	DESCRIPTION.	PER DOZEN
445	Two Blades, Cocoa Handle, Iron Lined, Crocus Polished, 3½ inches,	$5 00
413	" " Ebony " " " " " 3½ "	6 00
449	" " Cocoa " Brass " " " 3½ "	7 15
446	" " " " Iron " " " 3½ "	6 40
414	" " Ebony " " " " " 3¾ "	6 75
450	" " Cocoa " Brass " " " 3¾ "	7 90

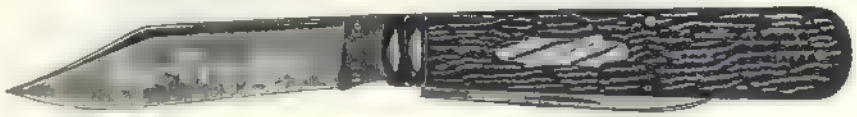
HALF DOZEN IN A BOX

Pocket Knives.

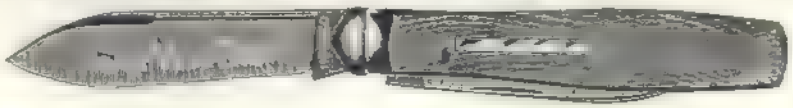
Hibbard, Spencer, Bartlett & Co.'s "Our Very Best," Warranted.

No. 509.

NO.	DESCRIPTION.	PER DOZEN.
509	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$6 00
512	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	7 15

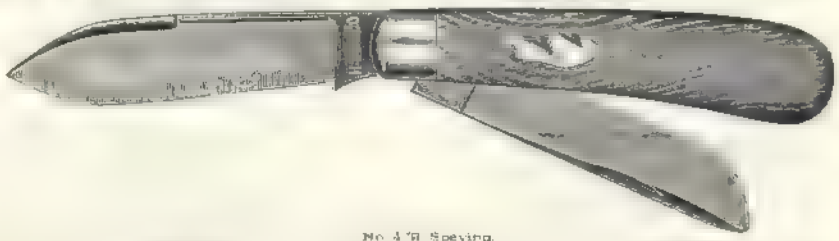


NO.	DESCRIPTION.	PER DOZEN.
443	Cocoa Handle, Iron Lined, Crocus Polished, Clip Blade, 3½ inches,	$6 00
510	Stag Handle, Brass Lined, Crocus Polished, Clip Blade, Hollow Bolster, 3½ in.,	6 00
513	Stag Handle, Brass Lined, Crocus Polished, Clip Blade, Hollow Bolster, 3½ "	7 15



NO.	DESCRIPTION.	PER DOZEN.
5.8	Two Blades, Cocoa Handle, Iron Lined, Crocus Polished, 3½ inches,	$. 15

NO.	DESCRIPTION.	PER DOZEN
51	Two Blades, Ebony Handle, Iron Lined, Crocus Polished, [illegible] inches,	$ 15



No. 479 Spaying.

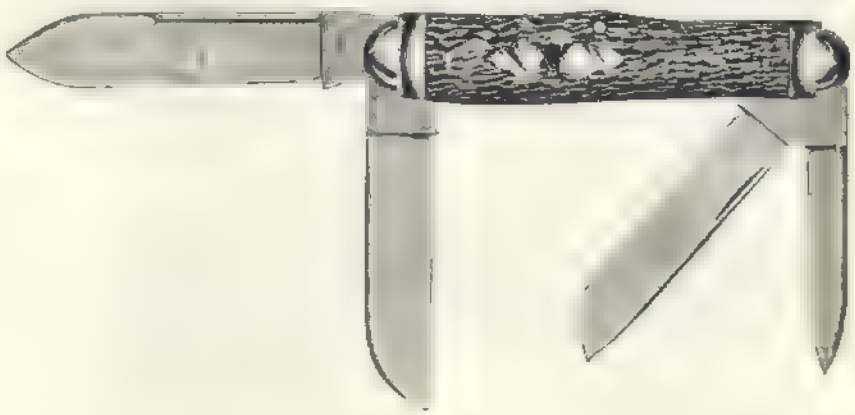
NO.	DESCRIPTION.	PER DOZEN.
479	Two Blades, Cocoa Handle, Iron Lined, Crocus Polished, 3⅝ inches,	$7 15
158	One Spaying Blade, Cocoa Handle, Iron Lined, Crocus Polished, 3½ "	4 15

HALF DOZEN IN A BOX.

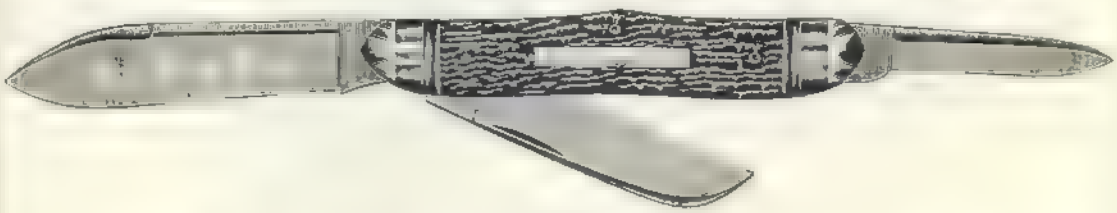
Pocket Knives.

Hibbard, Spencer, Bartlett & Co.'s "Our Very Best," Warranted.

NO.	DESCRIPTION	PER DOZEN
[illegible]	Three Blades, Pearl Handle, Brass Lined, Cocobolo Polished, [illegible] Blades,	$13 90
[illegible]	Three Blades, Stag Handle, Brass Lined, Cocobolo Polished, [illegible]	14 65



NO.	DESCRIPTION	PER DOZEN.
840	Four Blades, Stag Handle, Brass Lined, Cocobolo Polished, [illegible]	$18 00



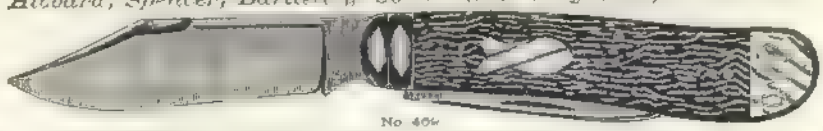
No 781

NO.	DESCRIPTION.	PER DOZEN.
780	Four Blades, Pearl Handle, Brass Lined, Cocobolo Polished, [illegible]	$14 25
781	Four Blades, Stag Handle, Brass Lined, Cocobolo Polished, [illegible]	15 00
782	Four Blades, Pearl Handle, Brass Lined, Cocobolo Polished, [illegible]	18 00

HALF DOZEN IN BOX.

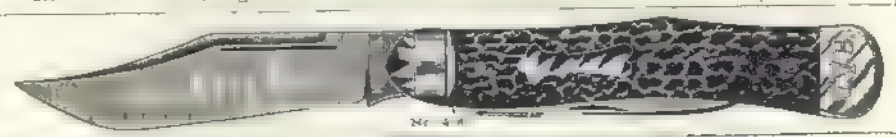
Pocket Knives.

Hibbard, Spencer, Bartlett & Co.'s "Our Very Best," Warranted.



No. 469

NO.	DESCRIPTION.	PER DOZEN
469	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	$9 00



No. 496

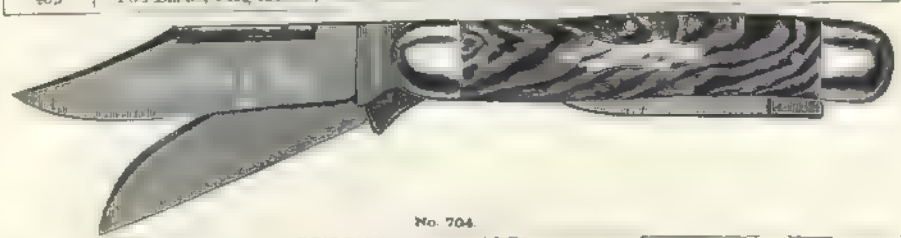
NO.	DESCRIPTION.	PER DOZEN.
496	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$10 00
497	Two Blades, Ebony Handle, Brass Lined, Crocus Polished, 3⅝ inches,	11 05
498	Two Blades, Ivory Handle, Brass Lined, Crocus Polished, 3⅝ inches,	15 75
499	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3¾ inches,	11 65

No. 392

NO.	DESCRIPTION.	PER DOZEN.
390	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3½ inches,	$ 9 00
391	Two Blades, Ebony Handle, Brass Lined, Crocus Polished, 3⅝ inches,	9 15
392	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3½ inches,	10 15

No. 400

NO.	DESCRIPTION.	PER DOZEN.
400	Two Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3¾ inches,	$10 15
401	Two Blades, Ebony Handle, Brass Lined, Crocus Polished, 3¾ inches,	10 80
402	Two Blades, Stag Handle, Brass Lined, Crocus Polished, 3¾ inches,	11 00

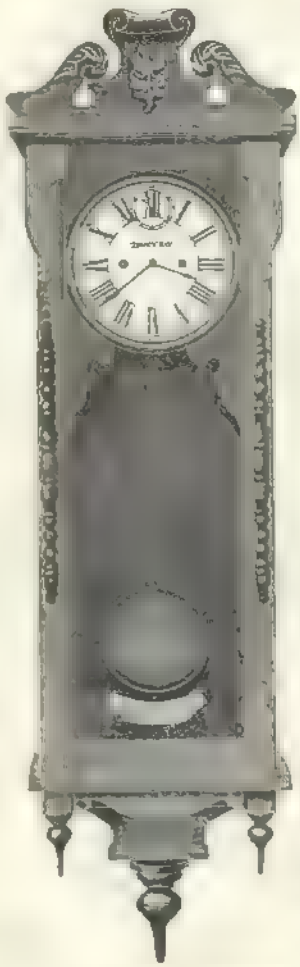


No. 704.

NO.	DESCRIPTION.	PER DOZEN.
704	Three Blades, Cocoa Handle, Brass Lined, Crocus Polished, 3¾ inches,	$13 50
705	Three Blades, Ebony Handle, Brass Lined, Crocus Polished, 3¾ inches,	13 05
703	Three Blades, Stag Handle, Brass Lined, Crocus Polished, 3¾ inches,	14 15

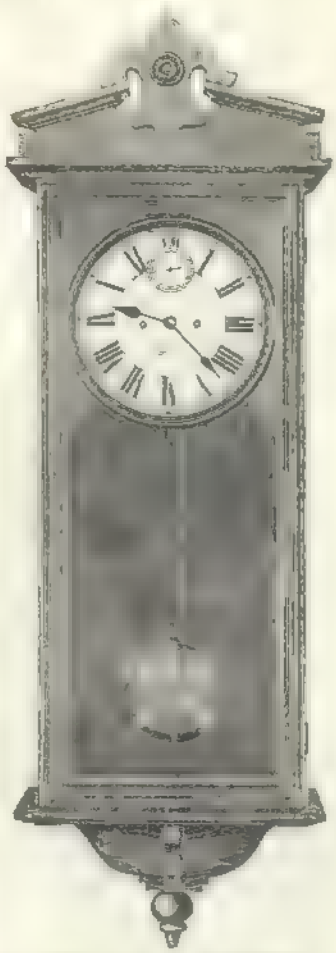
HALF DOZEN IN A BOX.

Office Regulators.



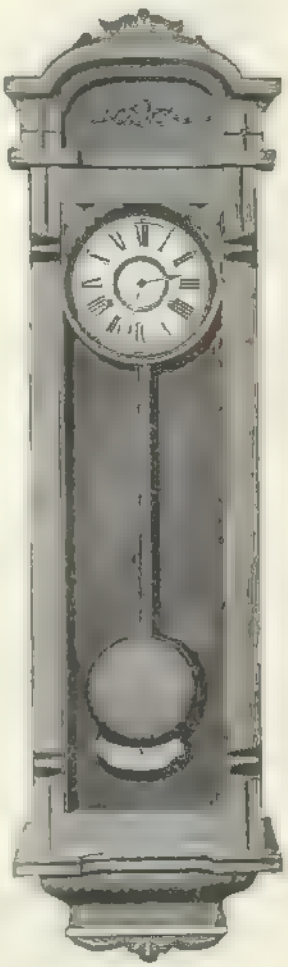
Height 44 inch. Dial 8 in.

NO.	DESCRIPTION	EACH.
3[illegible]	Trojan, Oak, 30 Day Time,	$17 [illegible]



Height 48 inch. Dial 10 in.

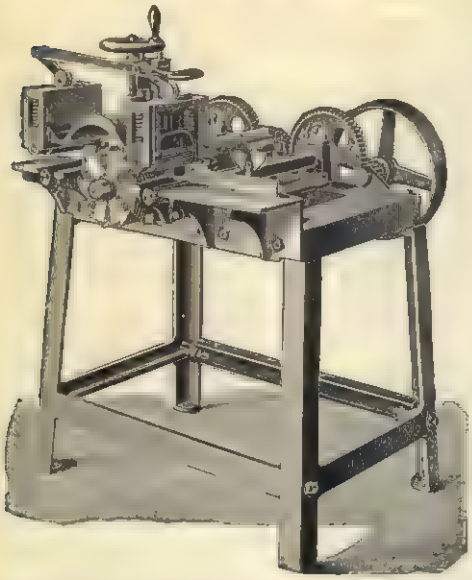
NO.	DESCRIPTION	EACH.
[illegible]	Vamoose, Lght Wood, 8 Day Time,	[illegible]
[illegible]	Vamoose, Light Wood, 8 Day Gong	[illegible]
34[illegible]	Vamoose, Light Wood, 8 Day Time, Calendar,	11 80
34[illegible]	Vamoose, Light Wood, 8 Day Time	[illegible]



[illegible]

NO.	DESCRIPTION	EACH.
350	Columbia, Oak, 30 Day Time,	$15 00

ADAMS' SIX SAW GANG LATH MILL AND PICKET MACHINE.



This machine occupies much less space than any other of equal capacity. It cannot get out of repair, and is practically free from wear, owing to its simple and remarkably strong construction. It is set to cut one picket, and the remainder of the piece into laths, but can be readily changed to cut pickets or laths or broom handles separately. Its capacity is from 3,000 to 5,000 laths per hour. Feed belt is included in the price, and the machine is shipped ready to work. Pulley 6 inches diameter, 8 inch face, and should run 3,500 revolutions. Weight, 600 lbs.

Price, as shown in cut.....$125 00
Without legs..... 115 00

GENERAL DIRECTIONS.

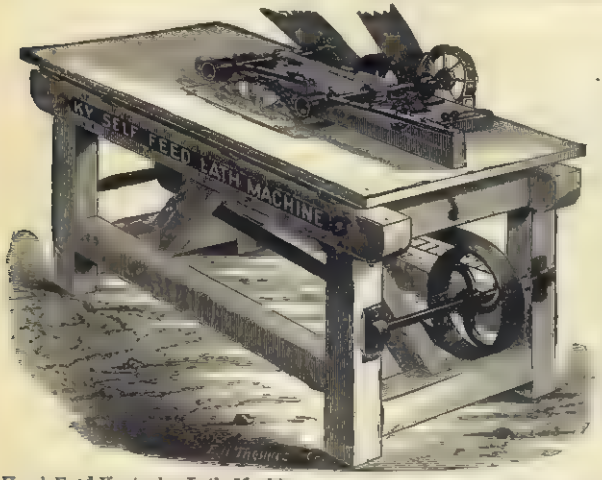
BELTING—Belt from below, if possible, as the oil will not feed well when the arbor is held against the caps by the belt. The saws also have a tendency to raise the arbor when at work; belting down counteracts this friction. Never place the Lath Mill directly over the pulley which drives it.

Set the machine forward of the pulley if convenient. When the laboring part of the belt is under the pulleys the slack part adheres to them; when on top it loosens from them. This is applicable to all belts.

Saws—The saws need no set except the swedge or upset; the point of the tooth, when in order, should be just one-eight of an inch in width; take the saws off to swedge; by swedging on the arbor it tightens the nut and there is danger of bursting it.

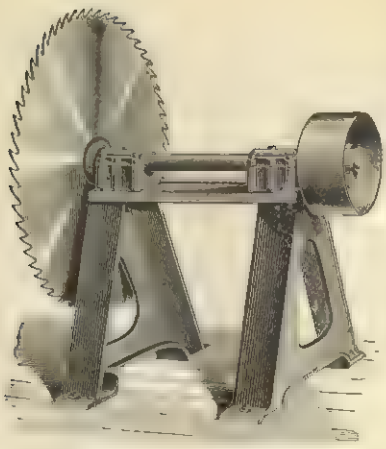
Lath cut with this machine are three-eighths inch thick by any width desired. The slabs are bolted or slit in the ordinary way the width required for lath; the machine does not do this work. It will cut planks two inches thick. From one cord of good slabs this machine will cut 3,000 lath. One thousand lath will cover seventy yards of surface, and 11 pounds of nails will nail them on. One thousand white pine lath weigh five hundred pounds.

KENTUCKY SELF-FEED LATH MACHINE.



This machine has fluted feed-rollers that draw in and discharge the boards. It has three 12-inch saws, separated by movable collars, cutting three laths at a time. A boy can attend it and make 1,200 laths per hour with ease. Two saws can be removed and the machine converted into a regular saw table, to cut palings, furrowing strips, etc. In fact, it is what every saw mill needs, and will pay for itself in a few weeks wherever laths can be sold in quantity. Pulley 5-inches diameter, 8-inch face. Revolutions, 3,000.

Hand-Feed Kentucky Lath Machine	$ 50 00	Weight, 300 lbs.
Hand-Feed Kentucky Lath and Shingle Machine combined, with three 14-inch Saws	75 00	" 350 lbs.
Self-Feed Kentucky Lath Machine, (as shown in above cut)	110 00	" 400 lbs.



IMPROVED BOLTING SAW.

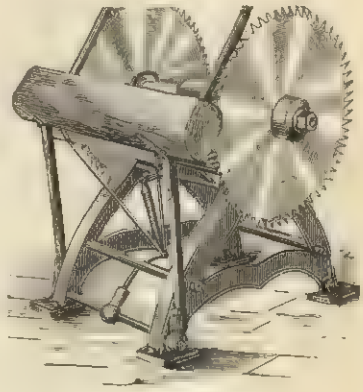
This machine is used for cross-cutting heading and shingle bolts. The arbor is of $2\frac{7}{8}$-inch steel. Boxes self-oiling. Pulley, 12 inches diameter, 8-inch face. The cast iron frame is very strong. Forty-inch saw generally used. Speed, 900.

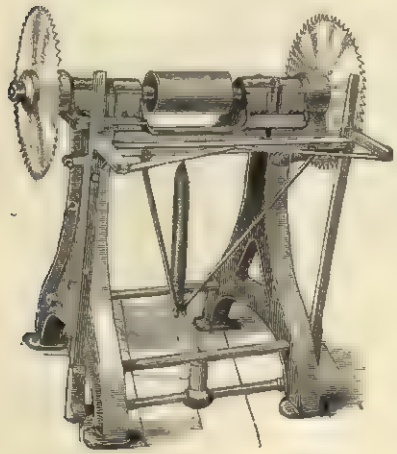
Price, with 40-inch saw, $125.00; without saw, $105.00.

STAVE BOLT EQUALIZER.

This Bolt Equalizer cuts to lengths varying from twenty-eight to thirty inches, by half inches, has a table constructed on the same principle as that of the Stave Equalizer, and is fitted with two saws, thirty-two inches in diameter. The mandrel in this runs in self-oiling boxes. We furnish counter-shaft if desired. Pulley eight inches in diameter and eight inches face. Speed, 1,200 to 1,300. Power required, about five or six horse.

	Weight, lbs.	Prices.
Bolt Equalizer, with two 28 in. saws	460	$100 00
" " with two 30 in. saws		105 00
" " 32-inch Saws		110 00
Counter-shaft and Hangers for Bolt Equalizers		33 00





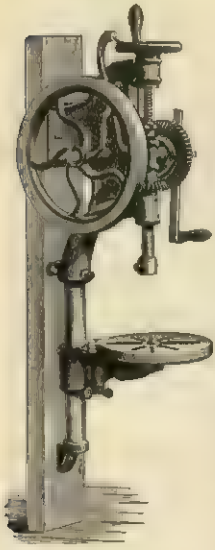
STAVE EQUALIZER.

It is arranged with swing table, which has the advantage of moving easily, is perfectly safe while being loaded, and passes much nearer the center of the saws than can be done with oth r arrangement. Size of saws usually sent is eighteen inches. Any other size will be sent at difference of price.

We build two sizes. One to equalize staves from twenty-eight to thirty-two inches long, the other from thirty-two to thirty-four inches, varying by half inches. This latter size is for tight barrel staves, and has a somewhat different swing table. Speed, 1,500 to 2,000. Power, about 5-horse. Pulley, five inches diameter, eight inches face. Weight, 270 lbs.

Price, either size Equalizer, without Counter-shaft with 18-inch saws $60 00
Counter-shaft, with Floor Stands or Ceiling Hangers.. 25 00

"ADVANCE" DRILL No. 12.



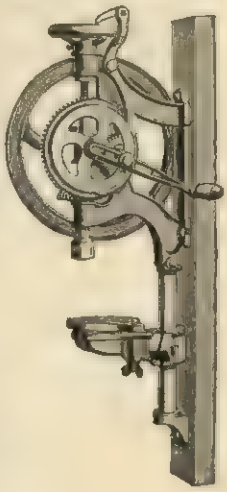
Our No. 12 Drill has long bearings, and cannot spring or get out of line. The automatic feeding device is entirely out of the way of the operator, and worked by a cam on inside of main gear wheel. It is so constructed as to give nearly a continuous feed, and does not jam the drill into its work all at once. It has two speeds, obtained by changing handle from one shaft to the other, giving the operator additional power. Drill Spindle has run of three inches, and is bored to take ½ inch straight shank drills. Drills to the center of 15-inch circle, and from 0 up to 1¼-inch holes. Weight, 125 pounds.

Price.....$10.00.

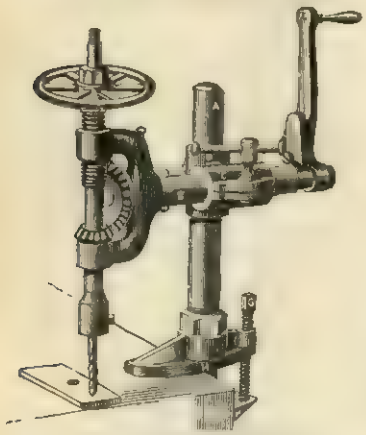
OUR EIGHT DOLLAR DRILL is a complete self-feed machine, with extension crank and adjustable feed. Drills ¾ inch and to center of 12-inch circle. Drill spindle is 1 inch *steel*, and bored for ½ inch Straight-shank drills. Feed has run of 3 inches. Upright column and feed screw are of best *steel*. Weight, 80 lbs.

Price..... $8 00

BLACKSMITHS' $8.00 DRILLING MACHINE.



UNIVERSAL ANGULAR DRILL.

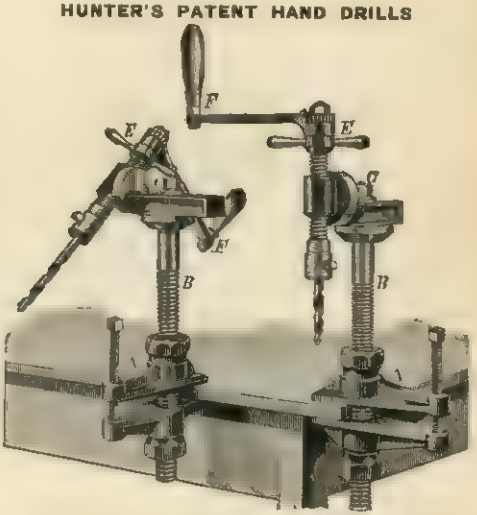


These drilling machines can be attached to drill at any angle. By placing the crank on the drill spindle it will work with a ratchet or without. We send a chuck with each machine, to hold 1-16 to 1-4 inch drills, with 1-2 inch shanks.

No. 1.	Weight,	26 lbs.,	drills up to	5-8 inch hole	$20 00
No. 2.	"	53	"	" 1	"	25 00
No. 3.	"	105	"	" 1 1-2	"	40 00

The No. 2 drill has two sets of gears, making either speeded or back geared machine. We keep Twist Drills from 1-4 to 3-4 inch, with uniform 1-2 inch shanks to fit this machine.

HUNTER'S PATENT HAND DRILLS



This drill is so constructed that it can be worked by a crank or ratchet, and at any angle desired.

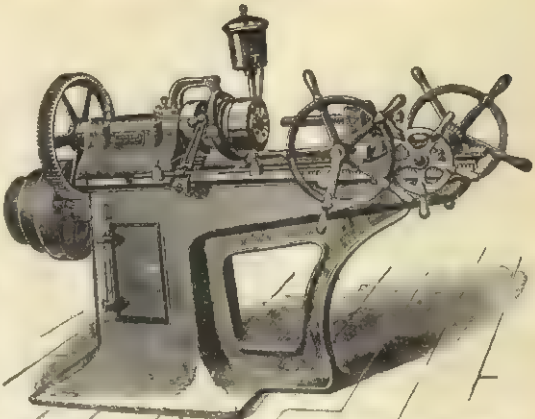
No. 1	drills up to	3-4 inch hole;	weight,	11 lbs.,	$20 00
No. 2	"	1	"	"	26	"	25 00
No. 3	"	1 1-2	"	"	43	"	35 00

Uses drill bits with 1-2 inch straight shank.

NATIONAL SINGLE BOLT CUTTER AND NUT TAPPERS.

Advantages Claimed.

1. The simplest, strongest, most durable and easiest operated head in the market.
2. Best mechanical motions of any in the world
3. Most simple and positive lock when closed
4. Has no toggle lock with five points for lost motion.
5. Has no toggle lock requiring to pass center to lock at all
6. No place for lost motion, when dies are placed in the head and size wanted, is obtained by adjustment; there cannot be a particle of lost motion, the size is fixed absolutely. This differs from the toggle motion
7. Head easily kept free from chips and dirt
8. Head made to standard jigs and gauges, and all parts are interchangeable.
9. Advantage of four styles of dies: Plain, hat, case and flush case
10. We make no misstatement when we say that case and flush case dies can be made double end or reversible.
11. Plain and hat dies cut in one head fit any other. Case and flush case dies we recommend to be cut in their cases. The cases, however, fit any other case or flush case die head
12. Flush case die (patented) cuts close to the shoulder, the only adjustable opening die that will do this
13. Head does not have index. This was proved useless by size of dies changing by wear.



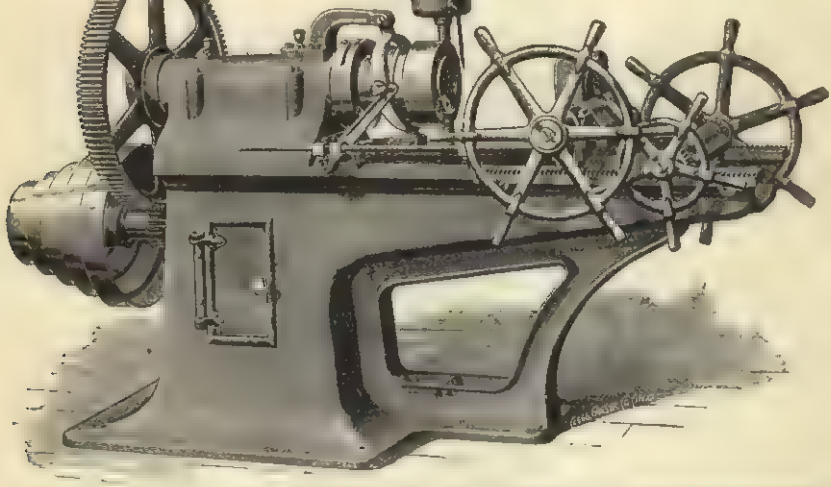
14. All wearing parts are not made of tempered steel (no head offered in the market has) but the majority of them are
15. Head is attached to hollow spindle on machine, allowing any length of thread to be cut
16. Head is much shorter, more compact, and does not overhang spindle as some others do.
17. Advantage of combined hand and automatic opening, patented, not possessed by any other make of bolt cutter
18. Advantage of centering device on vise jaws (patented).

No. 0; capacity to ¾ inch; weight, 1,000 pounds. Price with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to ¾ inch, $257.00.

No. 1; capacity to 1 inch; weight, 1,400 pounds. Price with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 1 inch, $310.00.

No. 2; capacity to 1½ inch; weight, 1,600 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 1¼ inch, $350.00.

No. 3; capacity to 1¾ inch; weight, 1,700 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 1½ inch, $425.00.



No. 3½; capacity to 2 inch; weight, 2,200 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 2 inch, $[illegible].

No. 4; capacity to 2 inch; weight, 2,700 pounds. Price with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 2 inch, $[illegible].

No. 5, capacity to 2½ inch; weight, 3,500 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 2½ inch, $675.00

HARDWARE BICYCLE LAMP DEALER

BEST for the HARDWARE DEALER

Because they are unsurpassed in quality; include all sizes and range in list from $40 to $100.

We control the output of factory.

Let us send you our Prospectus for '96.

HIBBARD, SPENCER, BARTLETT & CO., CHICAGO

639)

BI-CY-CLE STRENGTH-EN-ERS

KEATING WHEEL CO. HOLYOKE MASS.

ORIGINATORS OF LIGHT BICYCLES. THEY HAVE SHOWN THE WORLD HOW TO SCIENTIFICALLY PLACE THE STRENGTH OF A 60 LB. MACHINE IN THE 19 LB. KEATING ROADSTER.

BREAST DERRICKS.

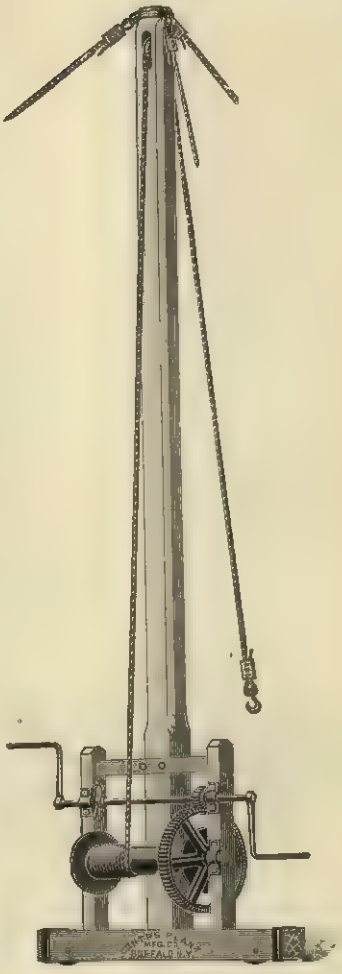
Fig. 69.

Hand Power, Single Drum, Breast Derrick.

Hand Power, Single Drum, Breast Derrick, 16 ft. long, complete	$40.00
Hand Power, Single Drum, Breast Derrick, 20 ft. long, complete	45.00
Hand Power, Single Drum, Breast Derrick, 24 ft. long, complete	50.00
Hand Power, Single Drum, Breast Derrick, 28 ft. long, complete	55.00
Hand Power, Double Drum, Breast Derrick	75.00

POLE DERRICKS.

Fig. 70.

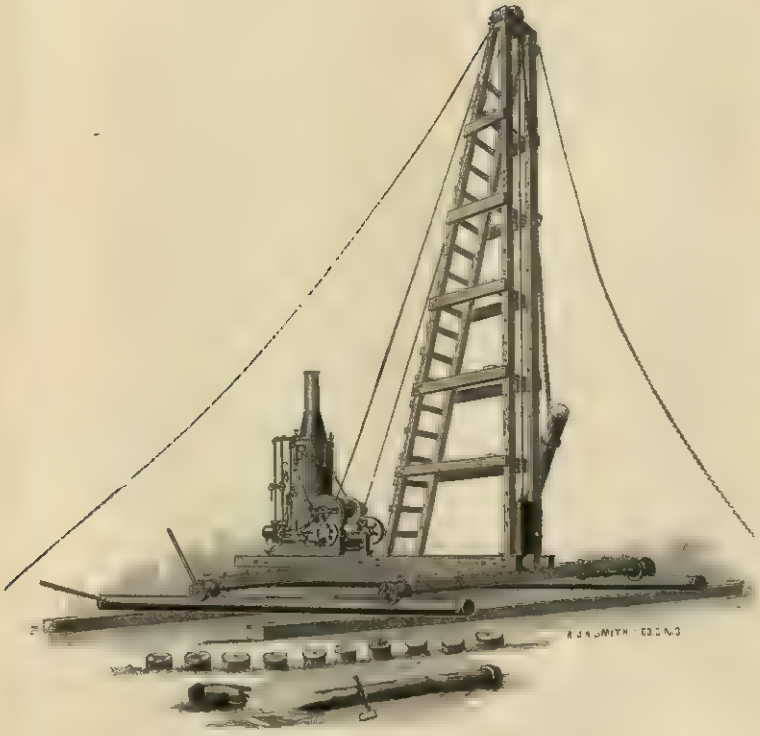


Hand Power Pole Derrick.

Hand Power Pole Derrick, without hoisting rope and guys, 16 feet	$35.00
Hand Power Pole Derrick, without hoisting rope and guys, 20 feet	38.00
Hand Power Pole Derrick, without hoisting rope and guys, 24 feet	42.00
Hand Power Pole Derrick, without hoisting rope and guys, 28 feet	47.00

PILE DRIVING DERRICKS.

Fig. 68.



Showing Derrick Complete with Hoisting Engine.

Pile Driving Hammers.

Fig. 68½.

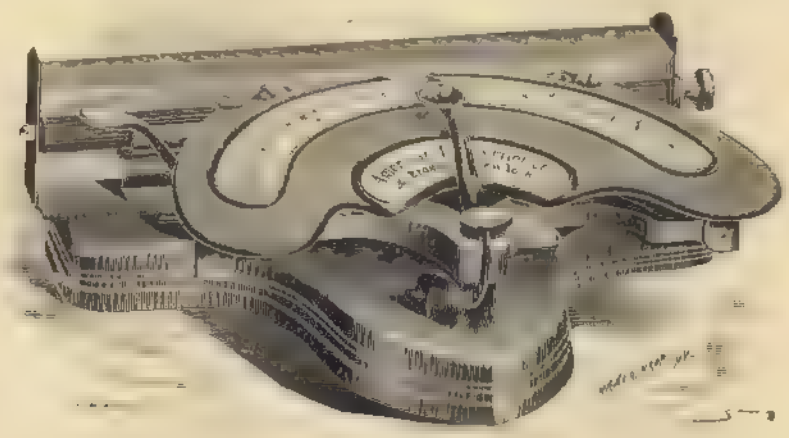
Weight	1000	Price, each	$40
"	1200	" "	48
"	1500	" "	60
"	1800	" "	72
"	2000	" "	80
"	2200	" "	88
"	2500	" "	100
"	3000	" "	120

The above cut shows complete Derrick with Hoisting Engine. By examining the arrangement, it will be seen that the Derrick rests on rolls and spools, which allows it to be readily moved by means of bars in all directions. Double Sheaves are located at the top, one for the Hammer line, the other for hoisting piles into position.

PRICES ON APPLICATION.

American Typewriter

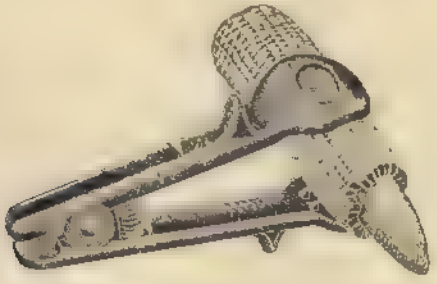
The American Typewriter Co., 265 Broadway, New York, are the manufacturers of the American Typewriter, shown in the accompanying illustration. It is known



as the New Model No. 2; prints 73 characters, capitals and small letters, figures, punctuation marks and the various commercial signs. It is simple in construction, and is built to meet a demand for a serviceable machine at a reasonable cost.

"Quick and Easy" Corn Sheller

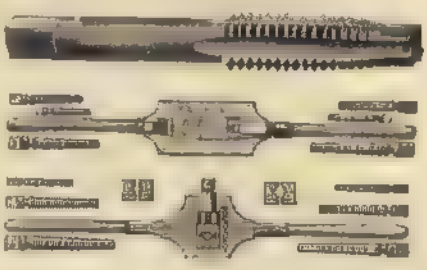
The Star Mfg. Co., Canton, O., manufacturers of household specialties are offering the trade their "Quick and Easy" Corn Sheller, an illustration of which appears in this connection. The engraving very



clearly shows the construction and the method of using this device. The "sheller" end of the tool is provided with teeth which, pressing against the kernels, detach them from the cob when revolved. A strong spring serves to keep the arms in proper position when out of use. A flat cob, it is claimed, is as easily shelled as a round cob. Kernels can be detached from the ear at any place desired; from the center for seed purposes, or from the ends. Its construction prevents clogging or choking up.

Holroyd Stocks and Dies

Holroyd & Co., Waterford, N. Y., are the manufacturers of the blacksmith's stocks and dies and the hand tap shown in the illustrations. These goods are as familiar in the trade as bolts or nails, and there is not

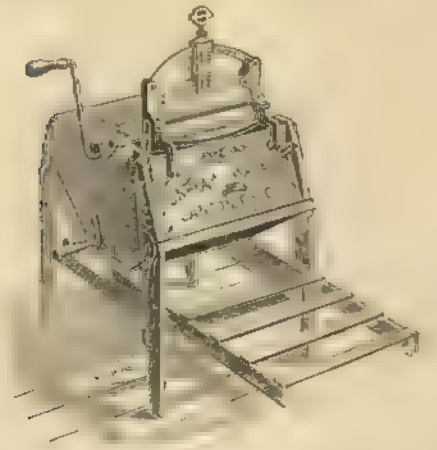


a blacksmith's shop or a machine shop but have them in use. A half century's experience enables the company to produce these tools in as near a state of perfection as is possible. In addition to these goods shown herewith they make a large variety of taps, dies and thread-cutting tools.

Sunbeam Washing Machine

The Eclipse Mfg. Co., Canton, O., are the manufacturers of the Sunbeam Washing Machine, shown in the accompanying illustration. Briefly described, it is a wooden receptacle, mounted on four legs, with its in-

terior surface corrugated on the bottom and ends, similar to an ordinary washboard. The operation of washing the clothes is ac-

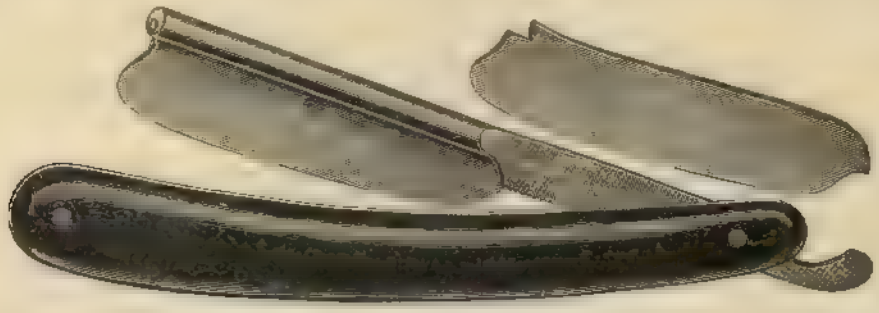


complished by gently agitating the contents of the tub, and expanding the meshes of the goods by means of a lever that is placed in position on top of the clothes. The effort required to do the washing is very slight. The cleansing is accomplished by the united action of condensed air, steam and suds, and not by sheer strength.

Arbenz French Razor

We illustrate the Arbenz French Razor, for which Mollwaine, Linn & Hughes, 122 Chambers St., New York, are sole agents for the United States.

This razor is made with interchangeable blades, as shown in the cut, so that in the event of accident or injury to one blade another can be put in its place by simply operating a small



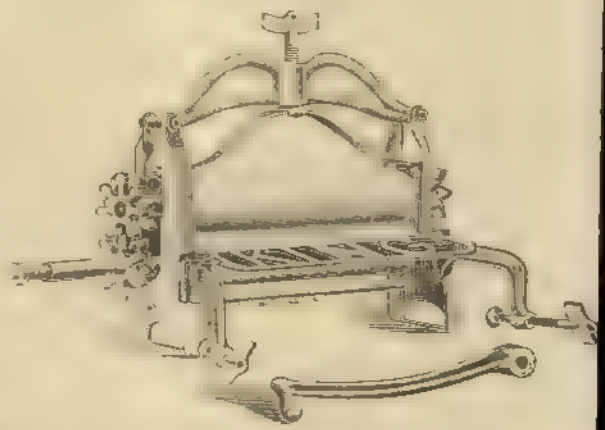
screw at the end of the frame, as shown in the illustration.

These blades, made of the very best English steel, forged very thin throughout, and hardened and tempered to the highest degree of perfection, will retain a keen edge for an incredible period, and with fair usage last a lifetime. Should they become accidentally notched they can be easily reset time after time, even by an amateur, as the process is so simple, and the blades never require grinding and need but very little stropping to keep them in perfect order and are adapted to all beards.

Each razor is handsomely cased, with an extra blade, and additional blades can be obtained if required.

The King Wringer

The National Wringer Co., Canton, O., in the King Wringer, shown in the illustration herewith, have a machine of exceptional merit. The frame is made entirely of malleable iron and steel, thoroughly galvanized and made rust-proof. The spring is



made of the best oil-tempered tested steel, the pressure being graduated by a single top screw. The clamps swing from side to side and will fit any size or shape of tub. This wringer is furnished with high-grade rolls, made of solid white rubber through to the shaft, and is fully warranted by the manufacturers. Catalogue will be sent upon application.

HARDWARE SKATES DEALER

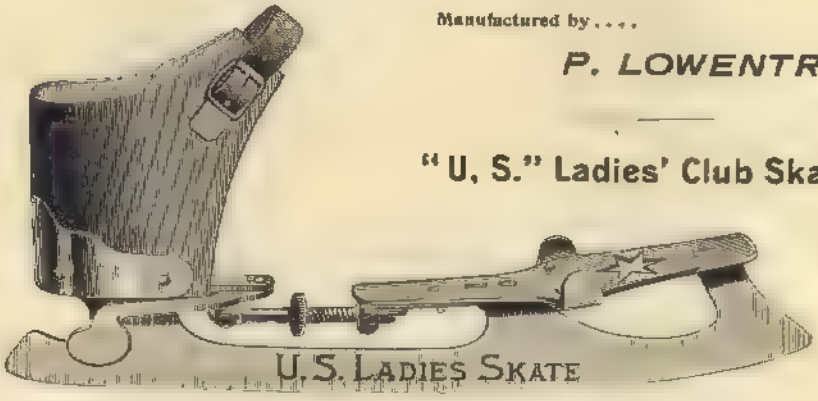
"U. S." Club Skates

FOR SEASON OF 1895 AND 1896

Manufactured by....

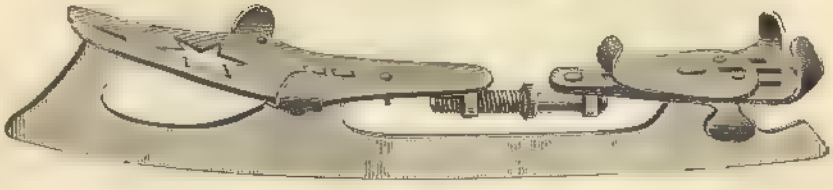
P. LOWENTRAUT

"U. S." Ladies' Club Skate



Several new numbers have been added to our line making it complete in all grades

"U. S." Club Skate



Our Catalogue is now ready and will be mailed on application. See our skates and write for prices and terms.

SOLE AGENTS

John H. Graham & Co.

113 Chambers Street

P. O. Box 1042 NEW YORK

HARDWARE SKATES & SHOVELS DEALER

PECK & SNYDER'S NEW AMERICAN CLUB SKATE

A NEW SKATE CLAMP

Patented 1895

Peck & Snyder's NEW AMERICAN CLUB SKATE for 1895 has revolutionized the art of skate making. The New American Club represents an entirely new heel clamp that will fit any heel in the universe. The old method of clamping to the heel is entirely done away with. It cannot slip, is stronger, acts instantaneously, no screwing or adjusting necessary, saves time, and is without question the most perfect heel clamp ever invented.

MADE IN FIVE GRADES

Peck & Snyder's New American Club skate is the most perfect skate ever constructed. It has simplicity of adjustment, solid foot plates, solid heel clamps, and will fit any heel.

The clasps cannot slip. Sure grip. Thumb screws and nuts entirely disregarded. It is light, handsome and twice as strong as the old club skate.

Ask your jobber to show you samples of the "New American Club." If he doesn't carry them, send direct to us for samples and prices. Handsomely illustrated catalogue of this skate mailed on application. Address

Here's the New Clamp

A. G. SPALDING & BROS.

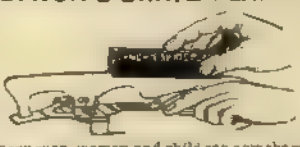
SUCCESSORS TO PECK & SNYDER,

NEW YORK 26-130 Nassau St. CHICAGO 147-149 Wabash Ave. PHILADELPHIA 1216 Chestnut St.

WRIGHT & DITSON, BOSTON, MASS., NEW ENGLAND AGENTS.

Factory, Chicopee Falls, Mass.

LYNCH'S SKATE PLANE



Every man, woman and child can now sharpen their own skates. The Lynch Skate Plane, for [illegible] surface or square fluted, is the best skate sharpener ever manufactured. Any one can use it. It will last for years, is perfect in every way, and fully guaranteed.

RETAIL PRICE, 25 CENTS. WEIGHT, 4 OZ.

Yes, Screen Doors Are Cheap and Plenty Now,

but owing to circumstances over which people have no control, the supply may not be so great when the season comes on, and in case of returning prosperity, the demand may be greater than the supply, which, of course, does not tend to reduce prices. Then, those who have bought reliable goods from reliable concerns will smile and pat themselves on the back on account of their foresight. Others will go about scowling, because a nickel prevented their seeing a dollar. **If you buy "Flyer" Screens** and "others" charging 5 cents more for Flyers—you will carry over the "others," and have to order more Flyers—So, don't buy Flyers—they will surely get you into a "muss." The Lord knows, there is trouble enough without buying things that prevent one from selling his old "plunder."

It is well to keep posted in things that people "go crazy" over, however, and you may want some other product of the Phillips factories, so it might not be imprudent to get their new catalogue from

THE A. J. PHILLIPS CO.

FENTON, MICH.

HARDWARE SPECIALTIES DEALERS

THE "QUINCY" CORN POPPER.

Something that will sell at sight. Turn the crank to shake the corn. Especially designed for children's use, and should be in every family. Liberal discounts to jobbers and dealers. Your orders are solicited at once.

Quincy Hardware Mfg. Co., Sole Manufacturers,

QUINCY, ILL., U. S. A.

WHEN USING THE DOUGLAS OR ACME INSTANTANEOUS WATER HEATER

HOT WATER

IS ON HAND ANY MINUTE OF THE DAY OR NIGHT

WHICH IS OF GREAT IMPORTANCE, WHILE IN CASE OF SICKNESS IT IS INVALUABLE!

THE BATH

IS ALLWAYS READY NO MATTER HOW LARGE THE FAMILY.

USED WITH GAS AT A MOST TRIFLING EXPENSE

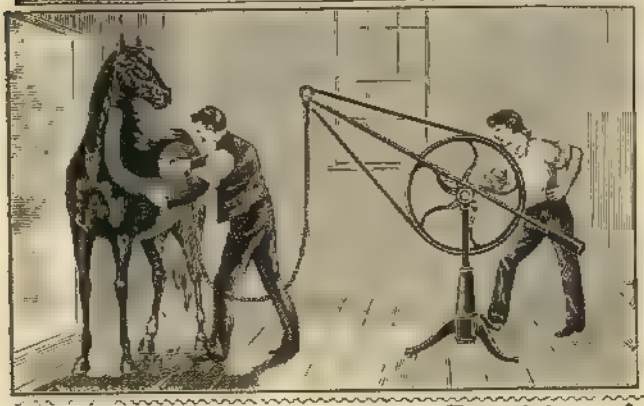
IN USING THE DOUGLAS OR ACME THE WATER IS NOT POISONED WITH THE PRODUCTS OF COMBUSTION AS MUST BE THE CASE WITH SUCH HEATERS WHICH CLAIM THE ENTIRE ABSORPTION OF HEAT IN ORDER TO ATTAIN THE NECESSARY RESULTS.

WRITE FOR CATALOGUE No. 3

THE INSTANTANEOUS WATER HEATING CO. MAKERS.

141-143 ONTARIO ST. CHICAGO. 836 BROADWAY, NEW YORK. 451 CAMP ST. NEW ORLEANS.

HARDWARE SPECIALTIES DEALERS



The Celebrated...

CHICAGO CLIPPER

(FLAT BELT)

Price, $25.00

Made by the

Chicago Flexible Shaft Co.

No. 142-44 Ontario St., Chicago, Ill.

The largest manufacturers in the world of Hand and Power, Horse and Toilet Clippers. .

Write for Discounts

Davidson's Cast Iron Cat

The New Rat Catcher. The most novel device ever invented for killing rats. Strongly made and retails for 25 cents.

Write for Circulars and Wholesale Prices..

THE NOVELTY TRAP COMPANY, NASHVILLE, TENN.

ALUMINUM DOOR PLATE

Always bright. Quick seller

Will not tarnish. Orders filled promptly

Agents and dealers wanted to handle this and other aluminum specialties

WRITE FOR PRICES.

Canton Brass and Aluminum Co.

CANTON OHIO

Highest Grade of . . . .

Silver Plated Ware

In Spoons, Forks, Etc.

Manufactured by

Established 1840

L. BOARDMAN & SON, East Haddam, Conn.

Also Nickel Silver Flat Table Ware and Britannia Spoons

Write for Catalogue and Prices

SANITARY PLUMBING

Gas and Steam Fitting, Heating and Ventilation Mechanical and Architectural Drawing, Steam Engineering (Stationary, Marine, Locomotive), Civil Engineering, Mining,

TAUGHT BY MAIL.

Twenty-seven Courses of Study Send for *free* circular State subject you wish to study

The International Correspondence Schools, SCRANTON, PA.

The publisher of the HARDWARE DEALERS MAGAZINE begs to announce that in January, 1896, he will issue, in convenient book form, a Wholesale Hardware Directory of the United States. The information contained in the Directory has entailed considerable time and expense, covering a period of six months, and is believed to be the first publication of its kind. The matter contained therein has been obtained individually from each firm and consists chiefly of the name of firm, location, date established, territory covered, capital stock if incorporated, class of goods handled and such other particulars as have been obtainable. The price of the Directory is $1. Address D. T. Mallett, publisher 271 Broadway, New York City.

SUSPENDED LEDGER,

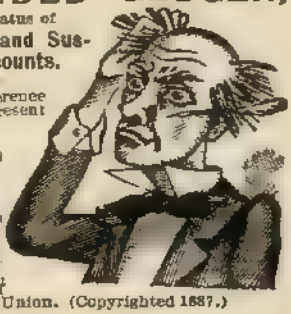
Giving full Status of

All Insolvent and Suspended Accounts.

Giving Ready Reference to their past and present condition.

Preventing Accounts from becoming outlawed.

Each Book also contains in front part a complete list of Statute of Limitations on Open Accounts, Notes, Judgments, etc. of every State in the Union. (Copyrighted 1887.)



PRICE OF BOOK Size of Leaf, 11½ x 17

160	pages	including Index in Book,	$3 25
240	"	" "	4 00
320	"	" Separate Index,	6 50
400	"	" "	7 50
480	"	" "	8 50
560	"	" "	9 50
640	"	" "	10 50

Canvas Cover $1.00 Extra

FREY STATIONERY CO., St. Louis

HARDWARE HOUSE FURNISHING DEALER

The New Rochester Lamp

Has the Best Wick Holder. No soiled fingers when re-wicking.

The Best Oil Indicator. No oil running over when filling.

The Best Chimney Lift. No burnt fingers or broken shades when lighting.

The New Rochester Parlor Heater

Thoroughly "*Up to Date.*" Burns without a chimney. Can be lighted without removing drum. It burns 12 hours and will heat a room 15 x 15 for one cent an hour.

Lamps in China, Glass and Metal in every conceivable design and finish. One burner—three sizes.

Prices to suit the present reduced market. Catalogue, with full particulars, on *application*. We can save you *Money*.

THE ROCHESTER LAMP CO.

42 Park Place and 37 Barclay St., New York

Height, 28½ in.

No. 971. Heater Complete. Height 27 Inches.

BANNER OIL HEATER

Simple, Novel and Practical
Requires Less Care than the Ordinary Lamp

Will burn 10 to 12 hours and Heat Comfortably a room 15 to 20 feet square

No Smoke No Odor Perfect Combustion

POINTS

The Oil Fount is brass, handsomely embossed and highly nickeled. It holds one gallon of oil. As each fount is tested under steam pressure before leaving the factory, there is no danger of leaking.

No Chimney. The drum of the ***BANNER*** in its construction acts as a chimney, saving the expense incident to the renewal of glass chimneys of other makes.

The Fount Frame is artistically made of wrought iron, making a solid base for the stove.

The Burner is the best made, and ONLY ONE with feeder wick, allowing all the oil to be consumed.

The Indicator shows at all times how much oil there is in fount.

The Plume is regulated with our ratchet wick movement, which allows the wick to be raised or lowered with nicety and exactness.

Lighting. It is not necessary to remove any part of the stove to light it. The sliding door in the drum is made for this purpose.

Draft. The round openings in the drum create great suction of cold air in addition to the regular draft. Double the radiating force of the ordinary stove is thus secured.

Get one for your Bed, Bath or Smoking Room, Library, Nursery, Office or Conservatory

The Plume & Atwood Mfg. Co.

29 Murray St., NEW YORK, U. S. A. 199 Lake St., CHICAGO

The Wire Fly Killer.

ONE OF THE GREATEST COMFORTS IN THE HOUSEHOLD

This is the testimony of the many thousands of women who are using them

REASONS WHY

Because

It is the only thing that will kill in a clean manner
Will not crush, soil or mar the most delicate wall paper or ceiling
It cuts the air cannot escape
It is a rapid seller

Write for Sample and Trade Prices

Manufactured by J. F. BIGELOW, 19 Foster Street, Worcester Mass.

NORDYKE'S SELF-CONTAINED DUPLEX FEED MILL.

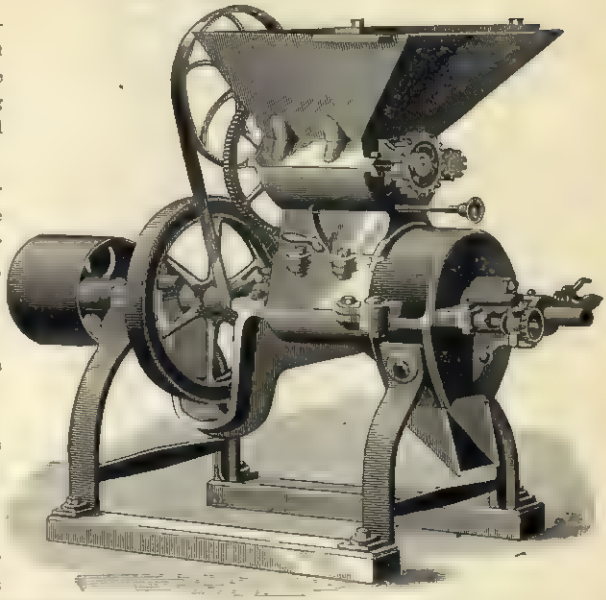
Price, $75.00.

The cut shows our Self-Contained Duplex Iron Feed Mill. It is provided with our new Double Breakers and also with Grinding Burrs, and grinds ear corn, shelled corn, and all kinds of grain.

The cut below gives the interior view of the Mill, showing the double breakers and gearing for operating same, the lower crushers, and duplex grinding plates.

The weight is 550 pounds.

Capacity from 15 to 25 bushels of ear corn per hour. Of oats alone, from 20 to 30 bushels per hour; of shelled corn, 25 to 35 bushels per hour; of oats and shelled corn together, 25 to 30 bushels per hour, grinding for feed, not for table use.

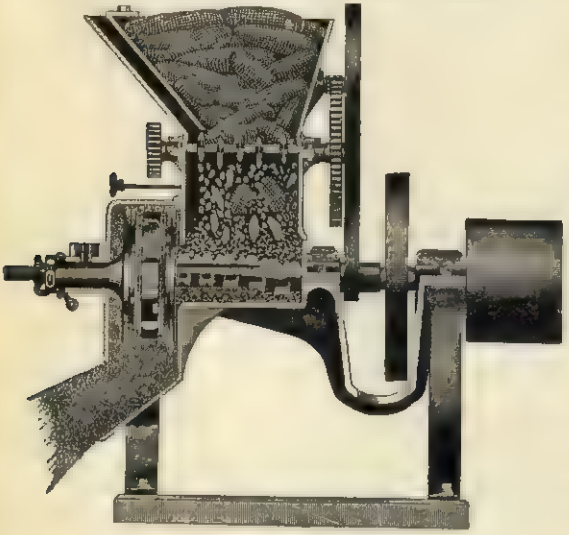


Speed with 10-horse power should be about 900 revolutions per minute. With larger engines or greater power the speed may be increased to 1,100 revolutions.

Pulley 10 inches in diameter and 6-inch face, or other size if desired.

The rings, or grinding buhrs, are 9 inches in diameter. A complete extra set of four is furnished with every mill, free of charge. Extra rings will be furnished at $2.00 per set.

Price of Mill, complete..... ..... $75 00



It is the only mill manufactured which has double grinders.

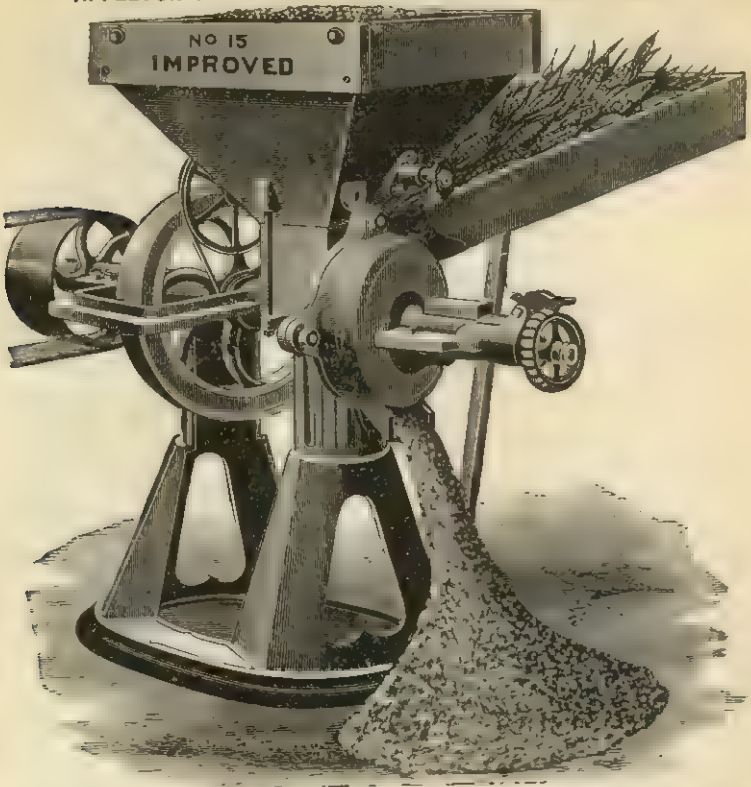
It has a grinding surface double that of any other mill of equal size, and can do twice as much work.

It is very economical in the use of power, and will grind any kind of grain, or corn and cob, coarse, medium or fine.

Its shifting device for regulating the grinding is the most perfect known.

It is simple in construction, easily operated, strong, durable and efficient.

APPLETON No. 15 IMPROVED CORN AND SHUCK MILL.

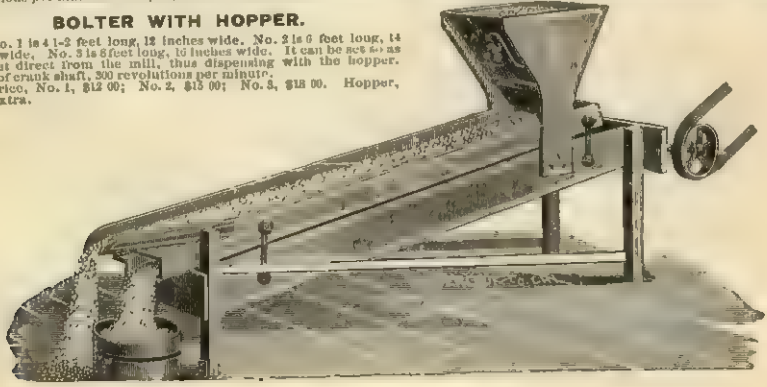


Our No. 15 Mill has been for years the most successful Corn, Cob and Shuck Grinder made, because instead of crushing the cob and shuck they are cut by sharp revolving knives which break them into fine pieces so they can be ground in the burrs. It is the only mill that will corn, cob and shuck and not clog.

We have improved this mill and made it stronger, and arranged it so that the grinding plates can be taken out and changed in a few minutes. It is built entirely of metal excepting the hopper. It will grind corn, cob and shuck together, and also all kinds of grain together or separate, without changing the hopper. By using our cotton seed hopper it will also hull cotton seed in all sections in corn. It will make a very nice quality of corn meal for table use, by using one of our bolting attachments. Capacity on corn, cob and shuck, 20 to 25 bushels per hour; corn alone, 15 to 20 bushels fine table meal, 25 to 35 bushels per hour, grinds cotton seed, 30 to 40 bushels per hour, hull cotton seed, 50 to 60 bushels per hour. The capacity depends on the power applied, and fineness of grinding. It has 12 inch pulley, 6 inch face. Power required from 6 to 10 horse power; speed from 800 to 1000 revolutions per minute. Weight, 500 lbs. Price, $60

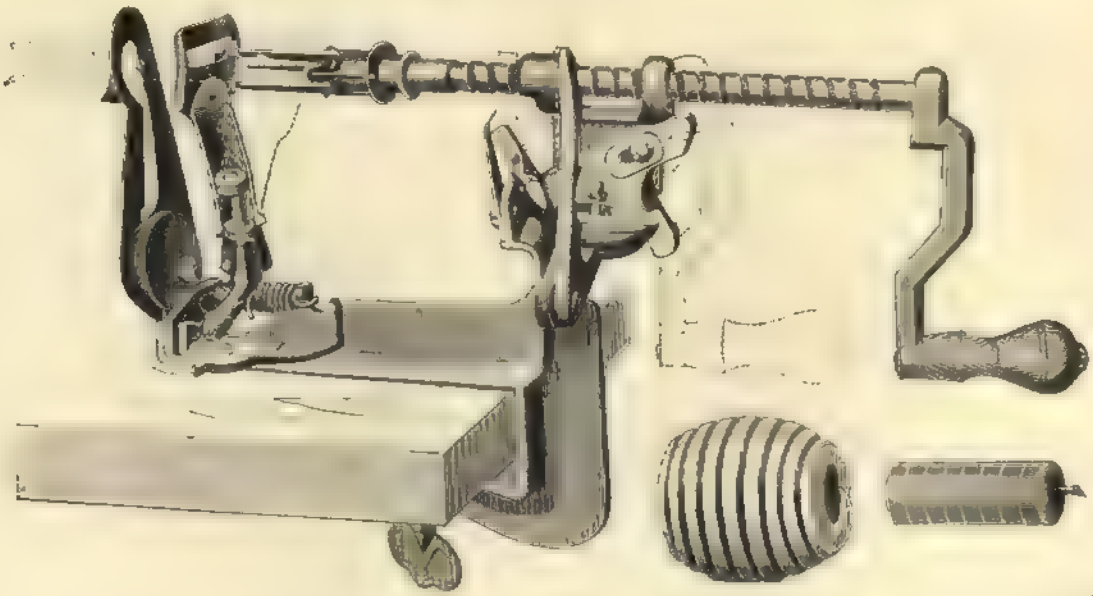
BOLTER WITH HOPPER.

No. 1 is 4 1-2 feet long, 12 inches wide. No. 2 is 6 feet long, 14 inches wide. No. 3 is 8 feet long, 16 inches wide. It can be set so as to spout direct from the mill, thus dispensing with the hopper. Speed of crank shaft, 300 revolutions per minute.
Price, No. 1, $12 00; No. 2, $15 00; No. 3, $18 00. Hopper, $3 00 extra.



Apple Parer, Corer and Slicer.

The "Advance."



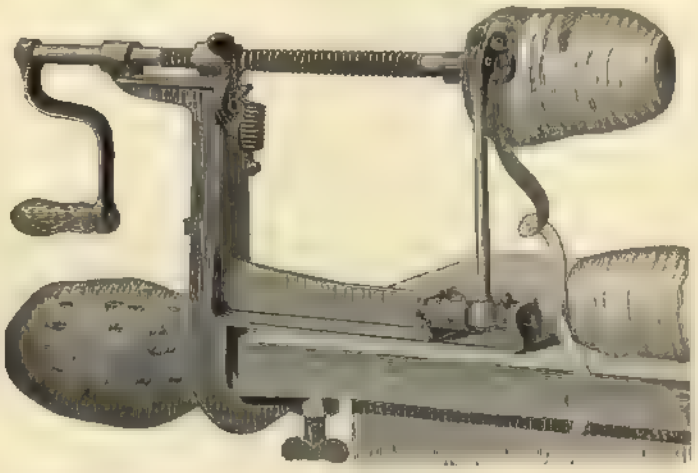
	Per Dozen
"Advance," with Patent Core Push-off,	$8.00

One Dozen in a Box.

Potato Parers.

Goodell's Patents.

The "White Mountain."



The "Saratoga."

"White Mountain" Potato Parer,	$12.00
"Saratoga" Potato Parer and Slicer,	12.00

One Dozen in a Box.

One of the regulations in connection with the cycle show to be held in New York, from the 18th to the 25th of January, 1896, is that the riding of machines is prohibited in any of the passages between or around the stands in the hall. This was one of the nuisances at the last New York show, and the authorities do not apparently mean to have a repetition of it.

* * *

The number of new concerns who are going into the field of bicycle manufacture is surprising. Unquestionably, so far as present indications may be relied upon, the demand for wheels next year will be far greater than that of 1895, although no such season has ever before been known in the bicycle trade.

* * *

It has been estimated that bicycles valued at $60,000 were stolen in England during this season. A scheme that the thieves work over there is described as follows: In some of the large cities there are small repair shops whose proprietors do a thriving business transforming bicycles, transferring handle bars, wheels and other parts, one from another, scraping off the enamel and replacing with a fresh coat, and in other ways rendering the machines brought them unrecognizable. In a case of bicycle stealing some time ago the machine was taken to one of these shops, and, although the police visited it within only an hour or two of the time it was left there, they found it entirely dissected and all the parts scraped clean of enamel.

* * *

"What is the meaning of 'geared to'?" is a question frequently asked by bicycle riders, and sometimes by dealers. Here it is in a nutshell. It means that a bicycle with a wheel of small diameter (the safety) can be so constructed, by means of a chain and front and rear sprocket, that one revolution of the crank will propel the machine as far as though the wheel was of large diameter—for instance, a safety having 28-inch wheels is geared to 64 when the front and rear sprockets are of such respective sizes as will, with one revolution of the crank, propel the machine as far as one complete revolution of a wheel with 64-inch diameter. Should a 28-inch wheel be fitted with a 7-tooth rear and 14-tooth front sprocket, it would be geared to 56, or equal to an ordinary with 56-inch front wheel

Duryea Motor Wagon

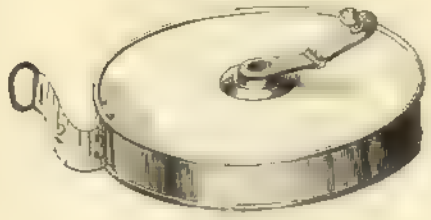
The Duryea Motor Wagon Co., Springfield, Mass., are now putting on the market the Duryea Motor Wagon shown in the accompanying illustration. It is a vehicle that traverses at the will of its operator all roads traversed by ordinary traffic and at a speed exceeding that of horses. It runs backward as freely as forward and stops or starts at will. Its speed depends largely on the roads, but on ordinary roads, in good

condition, a speed of fifteen miles per hour is easily maintained. It is provided with from four to six horse-power gasoline motor and steers similarly to and about as easily as a bicycle and will run over a rock "hands off" without deflection from its course. Its speed may be regulated at will by means of the same lever that effects the steering so that both the speed and direction are in the operator's hand at all times. The cost of running is less than one-half cent per mile.

* * *

It is reported that American cycle makers have already placed more contracts for material for the 1896 season than were placed at the end of December last for the 1895 season.

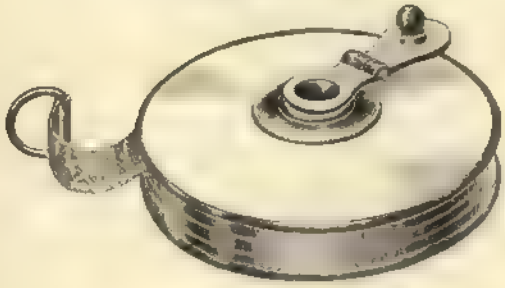
Measuring Tapes.



Asses' Skin. Brass Bound.

½ inch Common Cotton Tape.

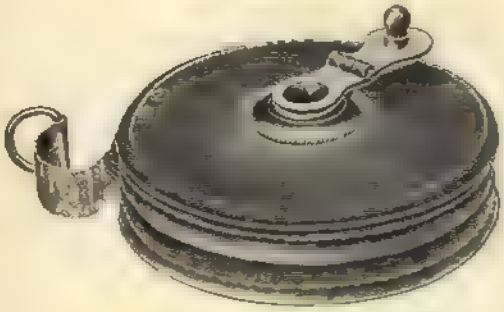
Nos.	30	32	33	34	35
Feet,	25	40	50	66	75
Per Dozen,	$3.75	4.50	5.00	6.00	7.50



Asses' Skin. Brass Bound.

½ inch Best Cotton Tape.

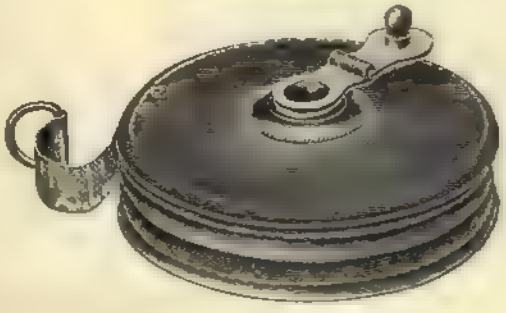
Nos.	93	94	95	97
Feet,	50	66	75	100
Per Dozen,	$6.25	7.25	8.75	10.75



Patent Leather Case.

½ inch Best Cotton Tape.

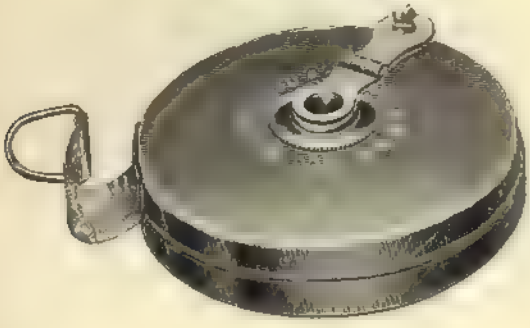
Nos.	43	45	46	48
Feet,	50	66	75	100
Per Dozen,	$6.25	7.25	8.75	10.75



Patent Leather Case.

½ inch, Super Corded Linen Tape.

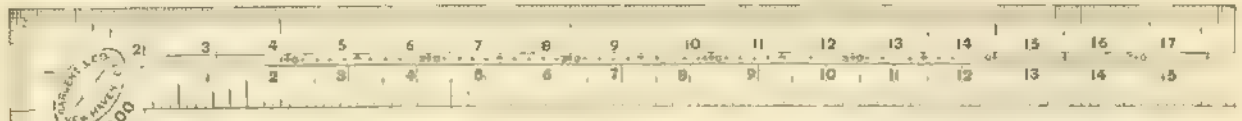
Nos.	62	63	64	65
Feet,	50	66	75	100
Per Dozen,	$10.00	12.00	13.00	15 00



Bent Leather Case.

⅝ inch Heavy Holland Tape.

Nos.	120	121	123
Feet,	50	66	100
Per Dozen,	$16.00	17.00	20.00



In ordering Steel Squares by length of Tongue, [illegible] the angle of the Square. Cut represents a Square with 16 inch Tongue.

Steel and Iron Squares.

Steel Squares.

No.	Per Doz.	Width	Description.
Length 2 Feet			
100	$66 00	2 inch	1/16, 1/12, 1/10, 1/20 1/8, with Brace Measure, 8 square and 1-100th scale, and Essex's New Board Measure, giving feet and inches in full
1	48 00	2 inch	1/16, 1/12 1/8 with Brace Measure, 8 square and 1-100th scale, and Essex's New Board Measure, giving feet and inches in full
2	44 00	2 inch.	1/16, 1/10, 1/8, 1/4, with Brace Measure, 8 square scale, and Essex's New Board Measure, giving feet and inches in full
2½	40.00	2 inch.	Framing, 1/12 and 1/8, both Sides and Edges.
3	35 00	2 inch	1/16, 1/12, 1/8, with Brace Measure, and Essex's New Board Measure giving feet and inches in full
4	33.50	2 inch	1/12, 1/8, 1/4, with Brace Measure, and Essex's New Board Measure, giving feet and inches in full
6	31.00	2 inch.	1/8, 1/4, 1/2, with Brace Measure, and Essex's New Board Measure, giving feet and inches in full.
Length, 1 Foot.			
10	22.50	1¼ inch	1/16, 1/8, 1/4, Six Inch Tongue.

Nickel Plated Steel Squares.

Length, 2 Feet.			
101	56.00	2 inch.	Same as No. 1 for Description.
103	42 00	2 inch.	Same as No. 3 for Description.

Eagle Squares.

14	25 00	2 inch	[illegible] inch, Essex's New Board Measure, giving feet and inches in full.

Iron Squares.

1	10.00	1¼ inch.	Iron Square.	Marked in 1/8ths on one side.
2	12.00	1¼ inch	Iron Square.	Marked in 1/8ths on both sides.
4	16.00	2 inch.	Iron Square.	Marked in 1/8ths on both sides.

Measuring Tapes.

Chesterman's.

Red Enameled Leather Case.

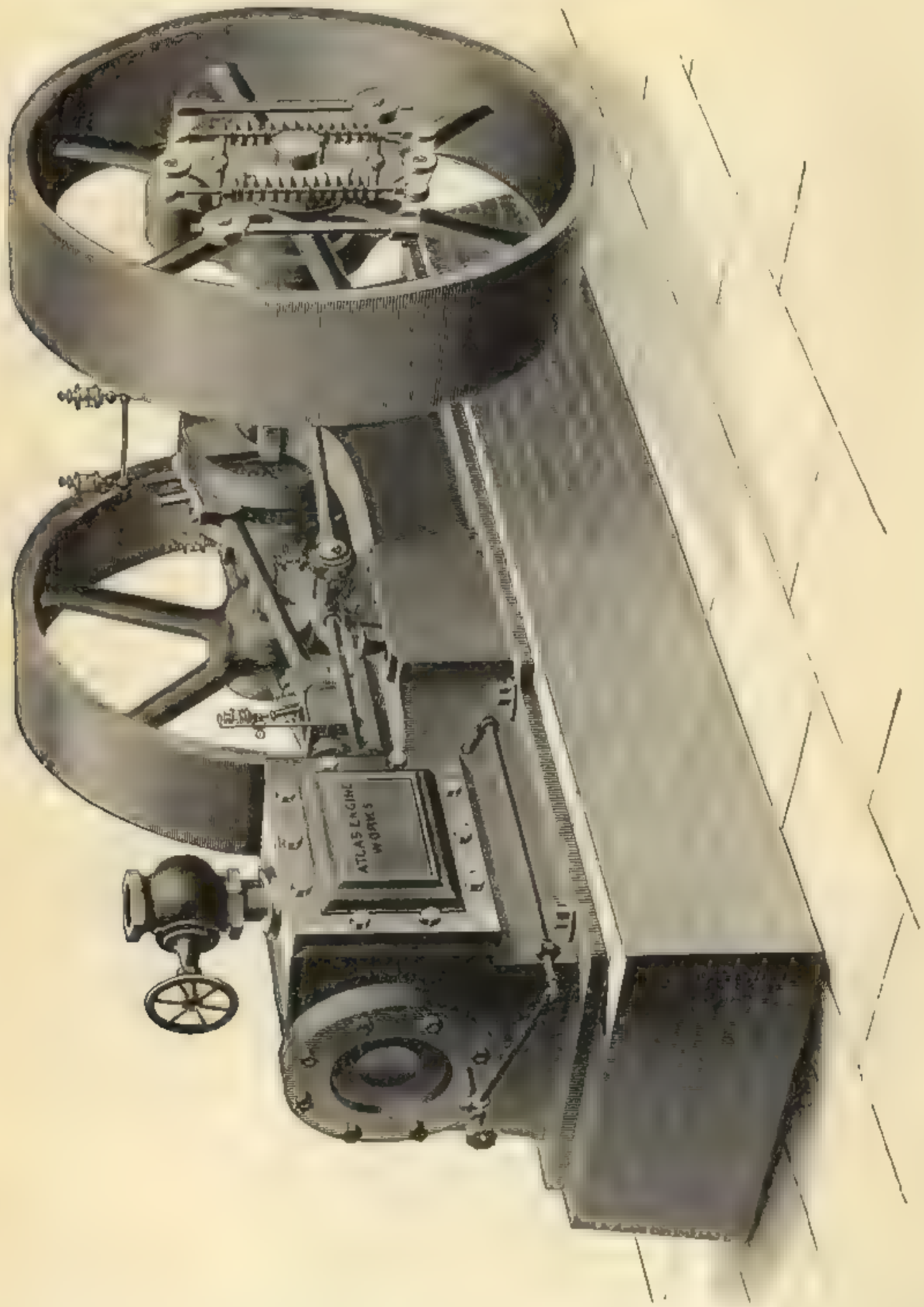
⅝ inch Metalic Tape.

Feet,	50	66	75	100
Each,	$2.63	3.00	3.25	4.25

Divided into 10ths or 12ths of a foot.
Unless 10ths are specified, we send 12ths.

ATLAS AUTOMATIC ENGINES—Class B.

Self-Contained.



This type of Automatic Slide-Valve Engine, with balanced valve, is especially recommended for small electric lighting plants, and for all classes of manufacturing where perfect regularity of speed, and the best obtainable economy of fuel are desired. Its compact form admits setting in locations where other engines affording equivalent power could not be used.

PLAIN SELF-CONTAINED ATLAS ENGINES—Class A.

Specifications of Standard Estimates.

Estimate Number	Dimensions of Cylinder		Normal Rated Horse Power	Standard Revs per Minute	Band Wheels		Diam of Main Shaft	Diam of Steam Pipe	Diam of Exh'st Pipe	Floor Space Required Approximate				Shipping Weight
	Diam	Stroke			Diam	Width of Belt				Length.		Width		Pounds Approximate
	Inches	Inches			Inches	Inches	Inches	Inches.	Inches	Ft	In	Ft	In	
7 A	7	10	10	200	40	7	2 15-16	1¾	2	7	0	3	8	1800
8 A	8	10	15	200	40	7	2 15-16	2	2½	7	0	3	8	1800
9 A	9	12	20	185	48	9	3 7-16	2	3	7	9	4	8	3200
10 A	10	12	25	185	42	9	3 7-16	2½	3½	7	9	4	8	3200
11 A	11	14	30	170	48	12	4⅛	2½	3½	9	2	5	7	4500
12 A	12	14	40	170	48	12	4½	3	4	9	2	5	7	4500

Each engine is furnished with wrought iron main shaft, two band wheels, governor, governor belt, stop valve, automatic sight feed cylinder lubricator and connections, oil can, oil cups, wrenches and cylinder drain pipes and valves. Anything else ordered will be charged for extra.

PLAIN SELF-CONTAINED ENGINES WITH HORIZONTAL TUBULAR BOILERS.

Stationary Outfits.

Complete outfits under these specifications include engine as above described, with horizontal tubular boiler, having dome, smoke box extension, smoke head door and stack saddle, fire front (Class B), grate bars, bearing bars, back stand, back arch plates, safety valve, steam gage and siphon, glass water gage and gage cocks, check valve, stop valve, blow-off cock, whistle, smoke stack and guy rods. Two injectors, with connections to boiler, and not exceeding thirty-five feet of discharge pipe, steam pipe connecting engine and boiler, and fifteen feet of exhaust pipe.

Plain Self-Contained Engine				Horizontal Tubular Boiler.			Distance Between Center of Engine and Center of Boiler	Shipping Weight.
Diameter Cylinder	Length of Stroke	Nominal Rated	Standard Revolutions	Diameter of Shell	Length of Tubes.	Nominal Rated		Pounds Approximate
Inches.	Inches.	Horse Pwr.	per Min.	Inches.	Feet.	Horse Pr.	eet	
7	10	10	200	36	8	15	9	5,800
8	10	15	200	36	8	15	9	5,900
9	12	20	185	36	10	20	9	7,800
10	12	25	185	36	12	25	9	8,400
11	14	30	170	42	12	35	9	11,000
12	14	40	170	48	12	45	10	12,500

COMPLETE ESTIMATES SELF-CONTAINED ENGINES AND LOCOMOTIVE BOILERS.

Forming "Detached Portable Outfits," "Under Outfits" and "Over Outfits" illustrated in this catalogue.

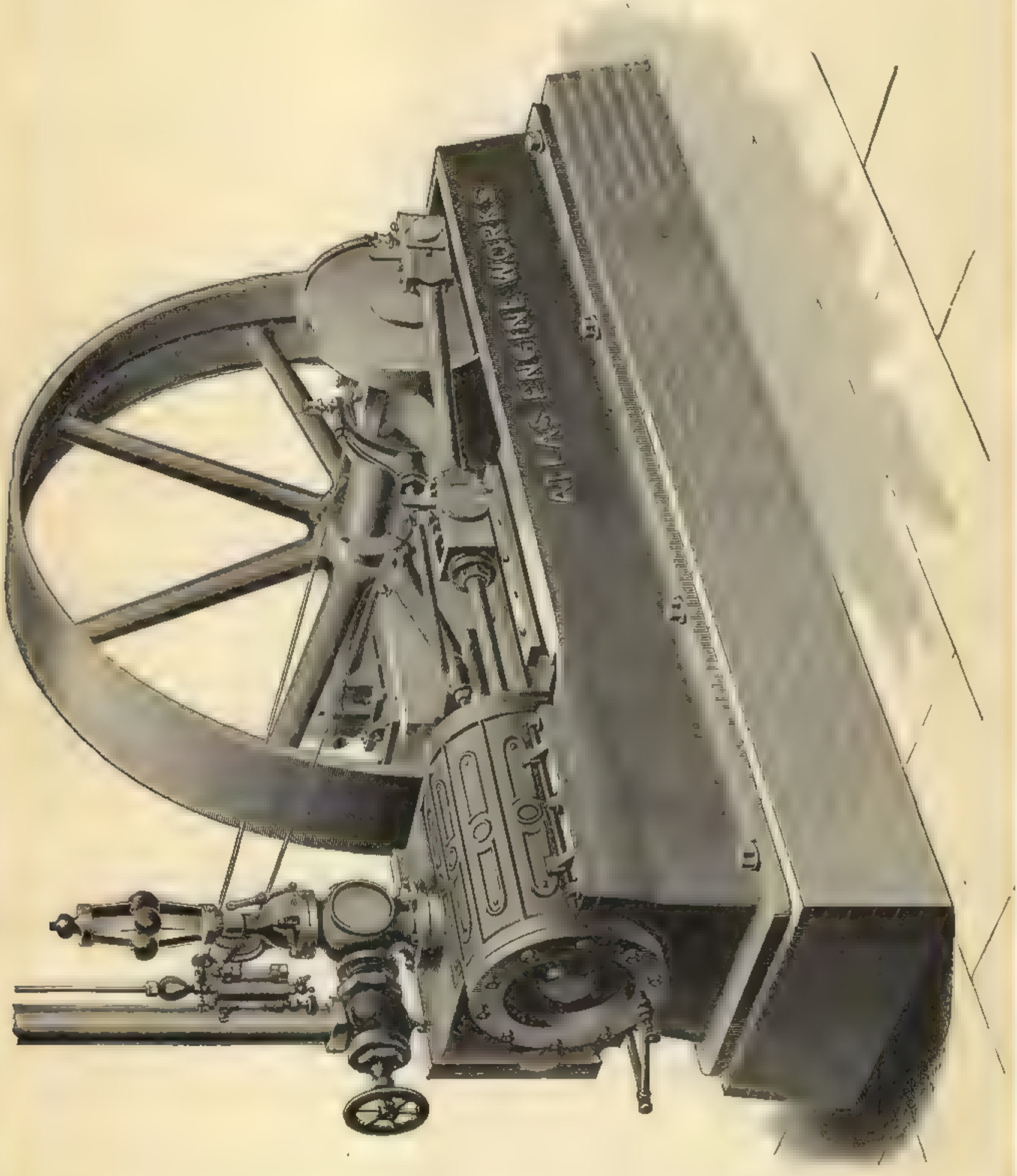
Plain Self-Contained Engine.				Locomotive Boiler.				Shipping Weight.
Diameter of Cylinder	Length of Stroke	Nominal Rated	Standard Revolutions	Diameter of Shell	Length Over All		Nominal Rated	Pounds Approximate
Inches	Inches	Horse Power	per Minute	Inches	Ft.	In	Horse Power	
7	10	10	200	28	9	5	10	5,000
8	10	15	200	33	11	0	15	6,200
9	12	20	185	34	12	8	20	9,400
10	12	25	185	36	14	0	25	10,600
11	14	30	170	40	15	2	30	12,800
12	14	40	170	42	16	4	40	15,100

The two injectors furnished with engine and boiler outfits are so arranged that either or both may be used; each being of ample capacity to feed the proper size boiler to generate steam for the engine, leaving one injector free to be used in case of accident or increased demand upon the boiler.

Foundation bolts and plates for engines will be furnished, if desired, and charged for extra.

ATLAS PLAIN SLIDE-VALVE ENGINE—Class C.

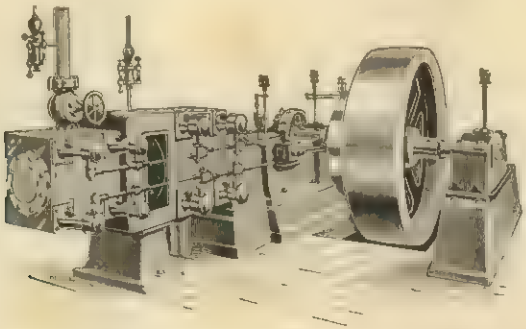
Side-Crank Pattern.



This cut illustrates our standard type of Stationary Engine of side-crank pattern. It will be recognized by steam users everywhere as the popular and peerless ATLAS, with improvements in design and construction that advance it far in the lead it has always maintained among other engines in the market.

ATLAS HIGH-SPEED COMPOUND ENGINES. CYCLOIDAL TYPE.

In addition to the extensive line of ATLAS Engines and Boilers heretofore carried by us, we now offer a new type of High-duty, High-speed Engines, single and double expansion, ranging from 100 horse power to 400 horse power.



Compound Cycloidal Engine, 100 to 400 Horse Power.

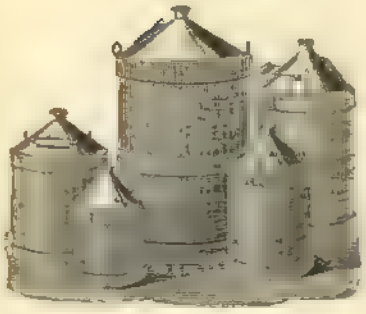
These engines represent the highest advancement yet attained in steam engine construction. They possess merits not found in any other class or type of engines offered to the trade. Intending purchasers of high grade motive power are invited to address us for special printed matter and quotations.

Large Spout Jacket Cans.

Evenden's Patent.

Gallons,	1	2	3	5
Each,	$0.60	.75	.90	1.10

Is Air Tight, having Cork Lined Caps on Can Screw and Spout.



Transportation Cans.

Evenden's Patent.

Superior to all others for Material and Workmanship.

Gallons,	1	2	3	5	10
Each,	$0 40	.55	.70	.85	1.35

Glass Kerosene Cans.

A. H. Pierce & Co.'s.

The "Pansy."

The "Daisy."

	Per Dozen
1 Gallon, with Steel Jacket, Japanned,	$4.25

	Per Dozen
½ Gallon, Bright Tin, Jacket,	$ 4.25
1 Gallon, Bright Tin, Jacket,	5.00
2 Gallons, Bright Tin, Jacket,	10.00

One Dozen in a Case. In Half Dozens, add 15 cts. for Case.

Tin Kerosene Cans.

½ Gallon, Tin, ... 2.50 | 1 Gallon, Tin, ... 3.00

One Dozen in a Rack.

Water Coolers.

The A. & W. Co.'s.

No. 10.

No. 20.

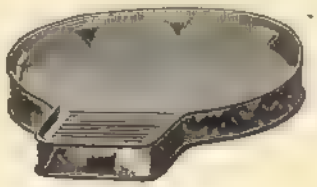
No. 10. New Decorations and Colors, Double Filled Walls, New Patent Self Closing Faucets.

Gallons,	2	3	4	6	8	10	15	20
Each,	$4.00	4.50	5.50	6.50	8.00	10.00	15.00	20.00

No. 20. Standard Low Priced Cooler, Galvanized Iron, Double Filled Walls.

Gallons,	2	3	4	6	8
Each,	$3.00	3.50	4.00	5.00	6.00

No. 50.



Cooler Drainer.

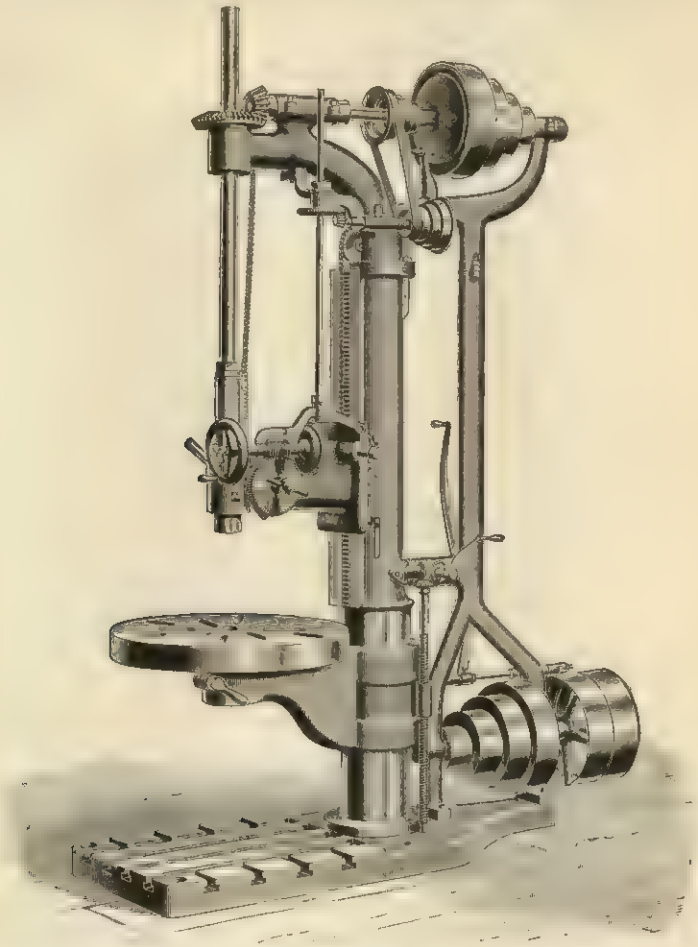
Cooler Stand.

No. 50. Porcelain Lined, Solid Cast Iron Cylinders, Self Closing Faucets.

Gallons,	2	3	4	6	8	10	15
Each,	$5.50	6.50	7.50	9.00	10.50	13.00	
Drainers Each,	$1.60	1.75	2.00	2.30	2.65	3.00	4.50
Stands Each,		$4.50	4.50	4.75	5.50	5.50	7.00

BARNES' PATENT DRILLING MACHINE No. 3.

34-Inch Swing, With Hand Screw; Quick Return and Back Gear.



All the adjusting parts easy of access, and so arranged that the operator can with the least effort control its action.

Stopping or starting the spindle, changing speed, engaging the self-feed, changing from fast to slow-feed, from hand to self feed, raising or lowering the sliding head on the column, raising or lowering the platen or swinging from under the spindle, throwing in or out the back gearing; all are accomplished instantly by permanently attached devices for these various purposes.

The spindle is fitted with No. 4 Morse Twist Drill Taper. The sliding head and spindle are counterbalanced, all shafts are of steel, the bearings are extra long, the workmanship first-class in every respect.

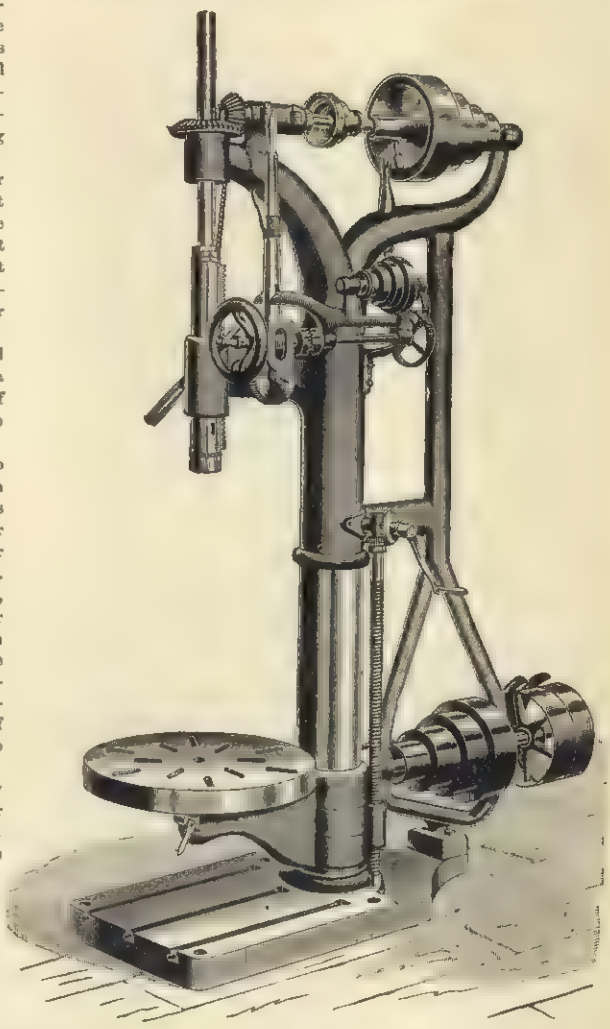
The extreme height of the machine is 8 feet 2 inches. The drill spindle can be raised 60 inches above the base. The travel of the spindle in the sliding head is 14 inches; diameter of fast and loose pulleys 14 inches, and will carry a 4-inch belt; large pulley of cone 14 inches, small pulley 4½ inches, and will carry a 3½-inch belt. The weight of the drill is 2,200 lbs.

Price, crated for shipment, and delivered on cars, St. Louis.....$350 00

Price, No. 2½, 28-inch swing, same as above described in all respects, excepting smaller proportions throughout, (Weight 1800 lbs.) 300 00

BARNES' PATENT UPRIGHT DRILL No. 2.

Twenty-Five Inch Swing, Lever Feed, Hand Screw Feed, Power Self-Feed, Quick Return and Back Geared.



This machine fills the requirements of every one of the above mentioned features as perfectly as though it were built with especial reference to one only. The operator can bring either into use instantly without one interfering with the other.

The back gear is internal, or what is termed planetary gear. It is very powerful, compact, durable and comparatively noiseless. It can be brought into or thrown out of use by simply dropping or raising a latch conveniently fixed for the purpose.

The self-feed can be stopped or started instantly by means of a small lever within easy reach of the operator, and is adjustable to different speeds.

The platen can be adjusted to any desired height on the column by a screw, the handle of which is within easy reach. The operator with but little effort can raise or lower the platen with one hand. The platen turns on its support, and can be thrown out from under the drill spindle. Both the platen and its supporting arm can be clamped firmly in place by clamping screws that have levers attached, thus avoiding the use of wrenches or any detached tools to adjust the machine.

The shipper is conveniently located where operator can start or stop the machine instantly with his foot, allowing free use of his hands for other purposes.

The spindle is steel, fitted with No. 3 Morse drill taper, and counterbalanced by a weight in the column. Rack and pinion and all gears are machine cut from solid Norway iron, and perfectly accurate.

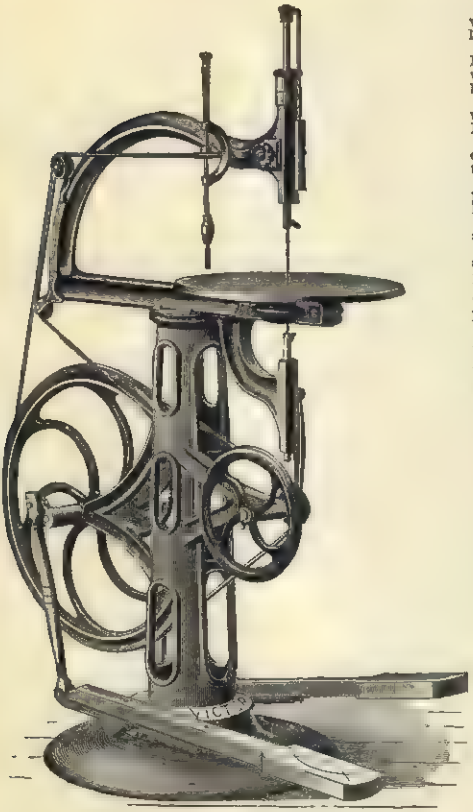
All bearings are long and well fitted, thus insuring long wear.

Height of the drill, 6 feet 6 inches; diameter of column, 6¾ inches; diameter of spindle, 1½ inches; vertical travel of spindle, 14⅜ inches. Diameter of large pulley on cone, 10 inches; small pulley on cone, 4 inches; fast and loose pulley, 10 inches; bevel wheel, 7 inches; bevel pinion, 3½ inches. Distance from spindle to base, 3 feet 8¼ inches.

The cones carry 3-inch belt, and have four speeds, giving a great range of motion.

Weight.....1,000 pounds Price.....$225 00

IMPROVED VICTOR SCROLL SAWS—FOOT AND STEAM POWER.



This machine is suitable for either light or heavy work, cutting with the greatest precision from the lightest up to 3 inches thick, and has 24 inches swing.

It is designed for Pattern, Model, and Cabinet Makers, Carpenters, Builders, and all wood and metal workers who desire a machine of large capacity suitable for close and accurate work.

It has an Adjustable Tension, in connection with the upper spindle, which may be varied to suit the operator. Length of Saw Blade, 8 inches.

The Iron Tilting Table is 18 inches in diameter, and can be changed to any angle for sawing inlaid work; the table and all finished parts are Nickel Plated.

It has an Adjustable Upright Drilling Attachment, provided with an "Empire" Drill Chuck, which will hold from 0 to 3-16 inch twist drills.

It has a large Dust Blower, which works perfectly and keeps the lines of the work free from sawdust.

The Driving Wheel is heavy, 24 inches in diameter, and the Driving Belt being the patent V-shape, strong power is obtained without any slipping or lost motion.

It has Double Foot Treadles, with a walking motion, by which much greater power can be obtained with less fatigue than any other kind in use.

The average rate of speed when sawing is about 800 strokes per minute.

The height from floor to top of table is 40 inches; this enables the operator to run the machine with both feet, sitting, or one foot, standing.

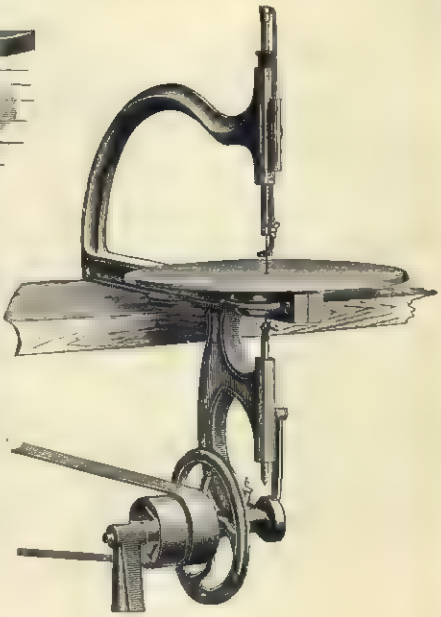
For Steam Power, we furnish tight and loose pulleys, arranged to connect to the Driving Wheel Shaft on either side, leaving a treadle connected on the other side.

Weight of Machine, complete, 260 lbs. Crated, ready for shipment, 325 lbs.

PRICES.

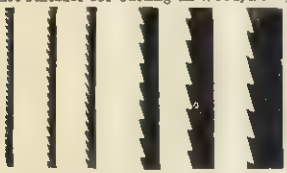
(Table and Finished Parts Nickel-Plated.)

No. 1—Victor Scroll Saw, as shown in cut, with 1 doz. 8-inch assorted Saw Blades, Twist Drill and Wrench, crated, ready for shipment.	$40 00
No. 2—The same as No. 1, without Drilling Attachment	35 00
Tight and Loose Pulleys for Steam Power, to attach to Nos. 1 or 2 Machines, extra.	5 00



8-INCH SAW BLADES, FOR "VICTOR" AND "EMPIRE" MACHINES.

These Saw Blades are of a superior quality, temper and finish. Nos. 20, 25 and 30 have "relieved" backs and slightly "set" teeth, and may be filed when desired. They are suitable for cutting in Wood, Bone, Shell, Sheet Brass and other soft metals. For cutting cast Brass and other hard metals we furnish a special Saw Blade.



PRICES—Nos. 6, 8 and 10, 3c each, 25c per doz; Nos. 20, 25 and 30, 10c each, $1 per doz.

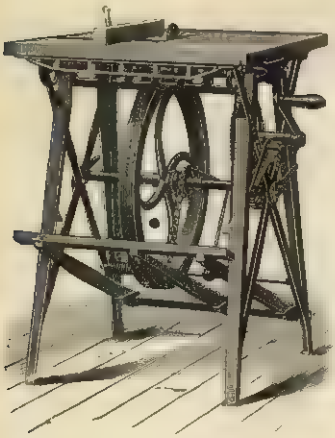
NO. 4 VICTOR SAW—STEAM POWER.

For Steam Power only, arranged to fasten to a work bench, has tight and loose pulleys for 1½ or 1¾ inch flat belt, has the same swing and the same capacity as the No. 1 machine, but has no Drilling Attachment.

Price $30 00

A very cheap and desirable machine for manufacturing purposes.

BARNES' COMBINED SAWING MACHINE.



This machine combines the No. 7 Scroll Saw and a Circular Saw. Each is perfect. The two machines can be put in one, ready for use either way, in one minute. For light ripping, cutting to length, cutting joints, drawer and box work, etc., the Circular Saw of the Combined Machine is invaluable. For general use, no more profitable investment can be made by any wood worker, than this Machine with its different combinations and attachments

The Circular Saw can be taken at once out of the way when the Scroll Saw is to be used. The mandrel is set in its bearing in such a manner as to enable the operator to take mandrel and saw from the machine in an instant.

All varieties of joint work can be done truly and rapidly. The table can be handily adjusted up or down by a cam, to allow any depth of cut being made by the saws or cutter tools. The Circular Saws are six inches in diameter, and reach 1¾ inches above the table. An eight inch saw can be used if desired.

Emery wheels, in size up to one inch face by six inches diameter, can be used to good advantage on this machine.

A handy and useful *Boring Attachment* is included or left out of the combination as desired, at prices named in following·

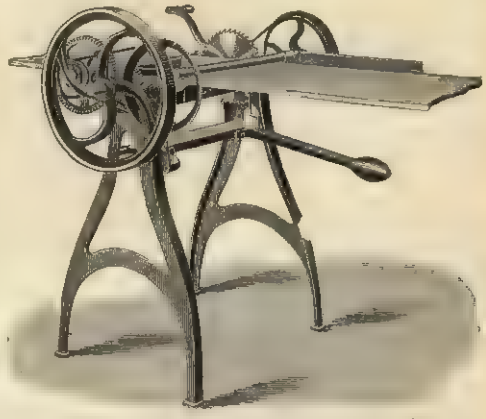
PRICE LIST.

Combination Circular and Scroll Saw and Boring Attachment, including 2 circular saws, 12 assorted scroll saws, an "Old Reliable" self-centering drill-chuck	$50 00
Combined Circular and Scroll Saw, including 2 circular saws and 12 assorted scroll saws	40 00
Circular Saw alone, including 2 circular saws, 1 rip and 1 cross-cut	35 00
Scroll Saw alone, including 12 assorted scroll saws	32 50

When either the Circular Saw, Scroll Saw or Boring Machine has been ordered separate, the other parts can be furnished, if the number of the machine is given, at the following prices:

Circular Saw Attachment, Mandrel and Boxes, with 2 six-inch circular saws, 1 rip and 1 cross-cut	$10 00
Scroll Saw Attachment, including 12 assorted scroll saws	7 50
Boring Attachment, including "Old Reliable" self-centering drill chuck	10 00
Countershaft for steam power	10 00

HAND CIRCULAR RIP SAW.

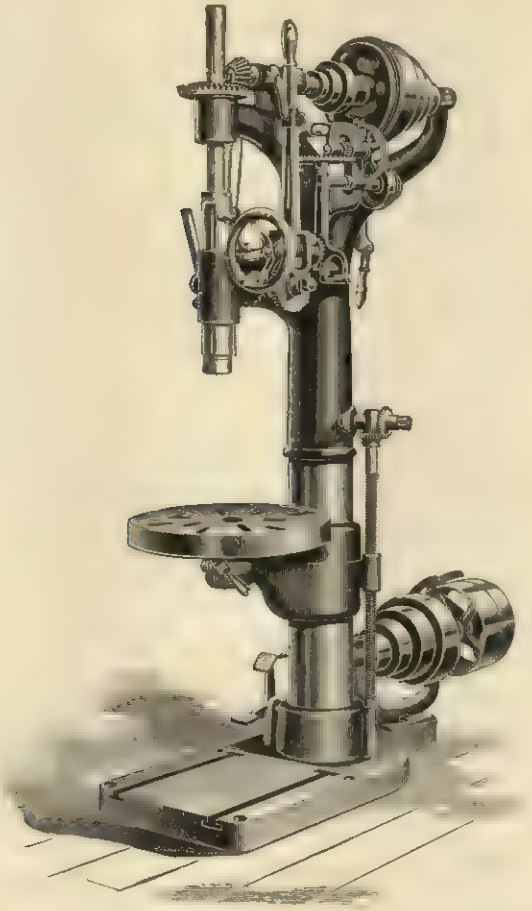


This machine will rip boards up to 3¼ inches and of any width up to 19 inches. It is especially adapted to shops without steam or water power, and will take the place of a steam rip saw in quality of work. The feed can be made slow or fast, as the operator may desire, by the self-adjusting cone-pulleys on feed rolls. The saw can be instantly set to any width or thickness desired. With this machine *one man can do the work of three* using the old hand-saw. *Unskilled operators can do the work rapidly and truly.* Unlike the hand-saw, the work is true and square, and is easily dressed with the plane. An operator with ordinary strength and endurance can easily rip (line measure) 600 feet of one-inch pine per hour. By changing the feed to correspond with thickness or hardness of the lumber, hickory, maple, ash, oak, walnut or cherry can be sawed with ease, the speed varying from 150 to 600 feet per hour. The cut shows the machine with the front table placed directly over the saw. The table is provided with an adjustable gauge, and by means of a hand-screw at rear end it can be readily raised or lowered to govern the depth of cut by the saw. Arranged in this way, rabbets, bevels, tenons, etc., can be cut to advantage, and by using two saws side by side, grooving for window and door stops, etc, can be done. We furnish an extra saw for this purpose with each machine. The saws are ten inches in diameter. The machine boxed, ready for shipment, weighs 275 pounds.

Price complete, as shown in cut $50 00

BARNES' PATENT DRILL No. 1½.

22½-Inch Swing.

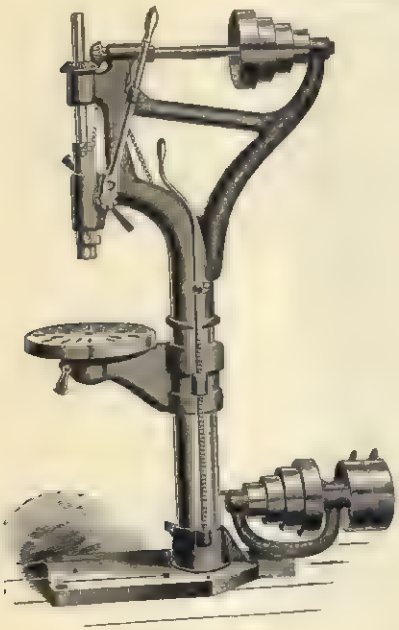


Dimensions.—Height, 74 inches; diameter of column, 6½ inches; diameter of spindle, 1¼ inches; vertical travel of spindle, 11 inches; diameter of large pulley on cone, 10 inches; small pulley on cone, 4 inches; fast and loose pulleys, 10 inches; bevel wheel, 7 inches; pinion, 3½ inches; from spindle to base, 43 inches. The cones carry 3-inch belt, and have four speeds. Speed of countershaft, 200. Will drill to the center of a 22½ inch circle. Its weight is 850 pounds.

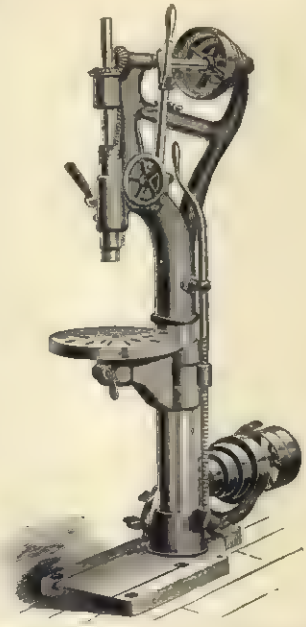
Price, combined hand lever and hand screw feed, with quick return lever. $100 00
Price, back geared, with hand feed lever and quick return lever..... .... 125 00
Price, back geared, with hand feed lever, hand screw feed and quick return lever..... .... 132 00
$1.00 deducted if back gear is not required.
Add $22.00 for automatic feed, either of above styles.

BARNES' PATENT DRILL, No. 1.

20-Inch Swing.



Square Base, Lever Feed.



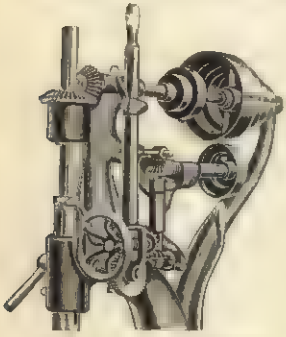
Showing the application of the Patent Combined Lever and Screw Feed.

A feature of this patent is the application of a lever that combines also a screw feed; either can be used without interfering with the other. All the advantages of both lever and screw feed are secured by this arrangement. The spindle is made of the best steel, fitted for Morse twist-drill taper, and counterbalanced. The rack and pinion with the bevel gears are cut from solid Norway iron. The platen turns in the arm that supports it, and the arm swings on the column. Both the platen and its supporting arm can be clamped firmly in place by clamping screws with levers attached. The shipper is conveniently located where the operator can start or stop the machine instantly with his foot, thus allowing free use of his hands.

Tight and loose pulleys on countershaft should run 200 revolutions per minute.

Height of the drill is 67 inches; diameter of column 5¼ inches; diameter of spindle 1¾ inches; vertical travel of spindle 9¾ inches; diameter of large pulley on cone 8 inches; diameter of small pulley on cone 3¾ inches; diameter of fast and loose pulley 8 inches; diameter of bevel wheel 5 inches; diameter of bevel pinion 3 inches; distance from spindle to floor (Round Base Drill) 43 inches; distance from spindle to floor (Square Base Drill) 41 inches. The cones carry 2-inch belt and have four speeds, giving a great range of motion.

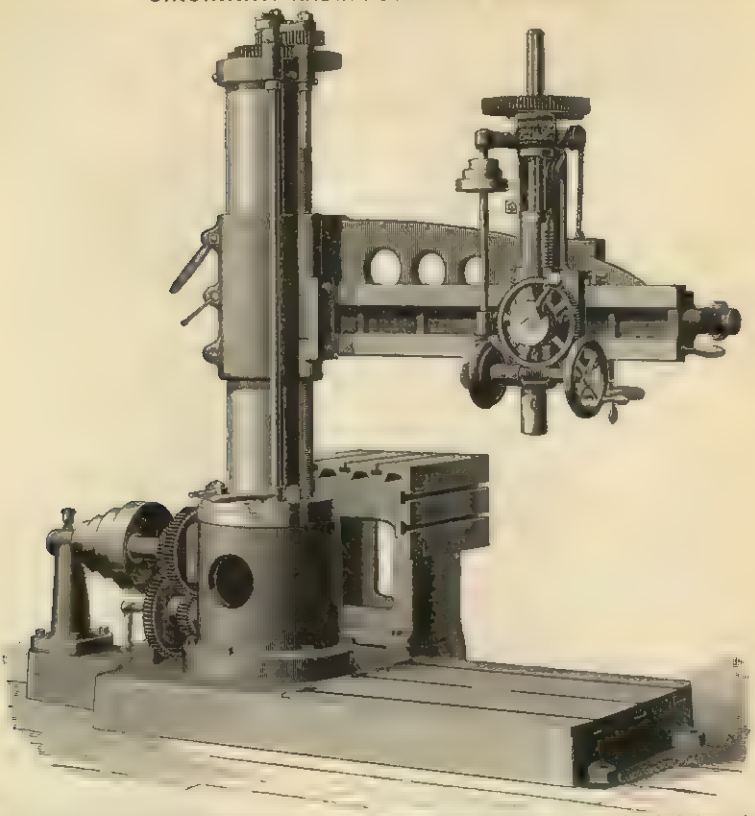
The machine will drill to the center of a 20-inch circle. Weight 500 pounds.



Cut shows Power Feed applied to Barnes' 20" Drill.

Price, with Lever Feed, Round Base	$75 00
Price, with Combined Feed, Round Base	80 00
Add for Square Base, either style	5 00
Add for Power Feed, either style	15 00

CINCINNATI RADIAL DRILLING MACHINE.



This is a valuable machine in all shops where heavy or bulky material is to be drilled. It is modern in design and appointments, embraces all the advantages desired in a first-class tool of its kind.

The base plate is very heavy and deep ribbed, and braced on under side so as to avoid all spring. The column with large round base is bolted to the bottom plate, and over this, with long bearing on top and bottom, is fitted the outside sleeve or column. This column rests on the bottom on a large flange, fitted with three clamping bolts. The rotating arm fitted over outside column is of a box form, strongly braced on top and bottom, and raises and lowers by power. The flange of outside column is provided with a roller bearing, to allow the arm to swing with perfect freedom. The machine is driven from cone pulley, shown on back of drill, and by mitre gears through inside of column to the top. All sizes are fitted with back gearing, and the spindles have powerful automatic feed. We furnish a box table slotted on top and one side, countershaft with tight and loose pulleys, with each machine.

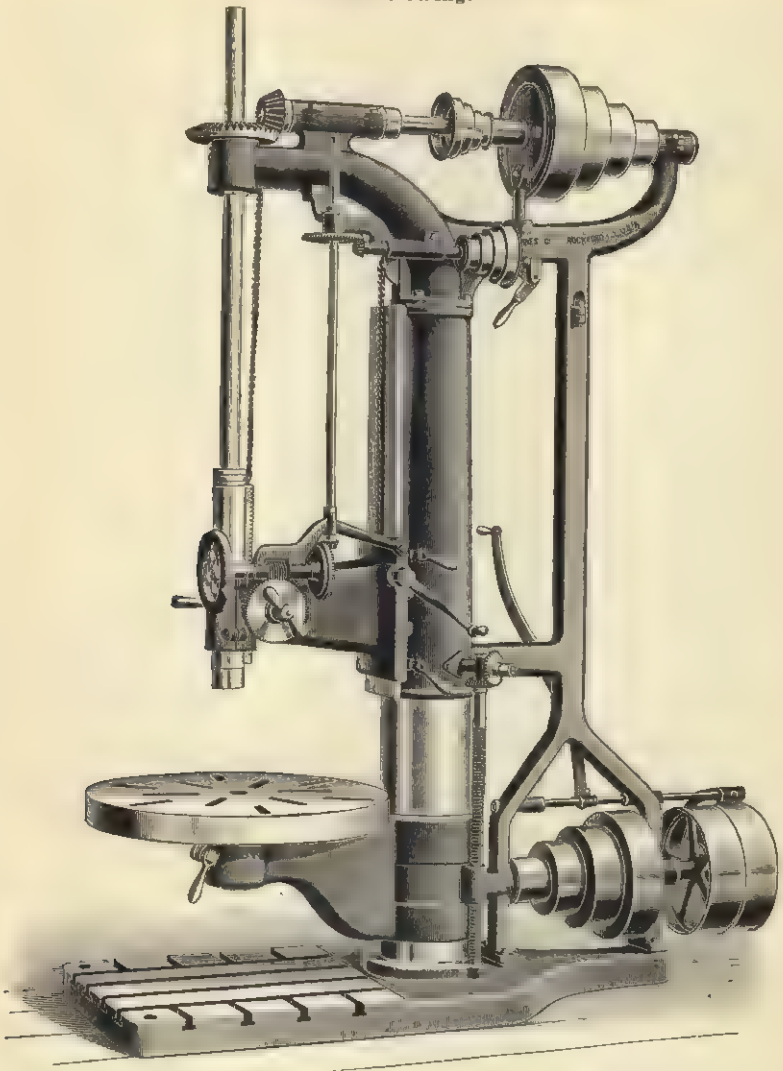
The No. 1 and 2 machines are radial, and the spindle works vertically only. Spindles are counterweighted and have quick return. Every machine is tested before leaving the works.

SPECIFICATIONS.

Number	1	2	3
Diameter of column	12″	15″	14″
Height of column	7′ 3″	8′ 3″	10′
Distance from elevating screw to center of drill spindle when at extreme point of arm	3′ 7″	4′ 6″	5′ 6″
Drills, to the center of	7′ 2″ circle	9″ circle	11″
Vertical adjustment of arm on column	2′ 4″	2′ 10″	4′
Receives under spindle over base	1′ 2″	1′	0′ 6″
Receives under spindle over floor	1′ 6 1/2″	2′ 7 1/2″	2′ 2″
Height of table from base	2″	2″	2′ 4″
Size of table	20″ x 20″	24″ x 24″	28″ x 28″
Diameter of spindle	1 1/8″	1 1/8″	1 1/2″
Spindle bored to fit Morse taper No.	1	2	3
Traverse of spindle	12″	20″	20″
Size of tight and loose pulley	12″ x 4″	14″ x 3 1/2″	16″ x 3 1/2″
Speed of countershaft	250 revs.	250 revs.	200 revs.
Width of belt for cone pulley	2″	2″	3″
Floor space for base	1′ 7″ x 7′ 4″	1′ 8″ x 8′	1′ 10″ x 9′ 8″
Weight of machine, about	4,500 lbs.	5,700 lbs.	11,000 lbs.
Price	$620 00	$770 00	$1,040 00.

BARNES' PATENT UPRIGHT DRILLS No. 4.

42-Inch Swing.



Our new 42-inch Drill is a very strong and strictly high grade tool in every particular, and is especially adapted for use in railway shops and manufacturing establishments where a thoroughly serviceable Drill is required.

The dimensions are as follows Height, 8 feet 10 inches, distance from spindle to base, 4 feet 10¾ inches; diameter of column, 10⅝ inches, diameter of spindle 3⅛ inches; width of column face, 10 inches, travel of sliding head, 30 inches; travel of spindle, 18 inches, diameter of large pulley on cone, 16 inches; diameter of small pulley on cone, 7 inches; face of pulleys, 4 inches; tight and loose pulleys 16 x 6¼ inches; diameter of crown gear, 11¼ inches; diameter of bevel pinion, 5½ inches; face of tooth, 2½ inches, takes No. 4 Morse Taper Weight of Drill, 4,000 pounds. Speed of countershaft, 125 revolutions.

Price $450 00

Police Goods.

Stars and Badges.

No. 30.

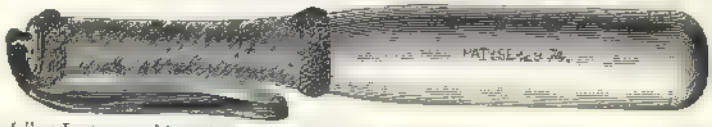
No. 20

No. 15.

NO.	DESCRIPTION.	EACH
20	Six Point Police Star, 3¼ inch, with word "Police" Enameled,	$2 00
30	Five Point Officers' Star, German Silver, finely Nickel Plated, Engraved "City Marshal," or "Chief of Police," as desired,	2 25
15	Six Ball Point, Officer's Star, German Silver, finely Plated, and Engraved "City Marshal," "Sheriff," "Constable" "Detective" &c., as may be desired,	6 50

All our Stars are provided with strong safety pins. Special designs of Stars or Badges can be furnished on short notice.

Bean's Patent Flexible Police Club



This Club is made of Sole Leather, and brought together under a heavy pressure over Steel Wires, cemented and riveted, and covered with the same material, securing a perfect surface, without break or Seam, and very slightly elastic. It is the most effective club in use.

NO.	DESCRIPTION.	EACH.
10	10 inch Bean's Police Club,	$1 75
12	12 inch " " "	2 00
14	14 inch " " "	2 25

The Paralyzer as a weapon of defence is much better than a pistol, for the reason it makes no report and does not miss fire. The strap is attached to a swivel, same as the leather clubs. Weight, 8 oz.

NO.	DESCRIPTION.	EACH.
15	Paralyzer,	$1 25

Clubs or Batons.

DESCRIPTION	EACH.
18 inch Rosewood,	$1 00
22 inch "	1 25
22 inch Locust,	1 00

Platted Billy.

NO.	DESCRIPTION	PER DOZEN
26	Platted Billy, Black Leather,	$4 00

Slung Shot.

NO.	DESCRIPTION	PER DOZEN.
24	Black Leather Slung Shot, Leather Strap.	$6 00

Police Goods.

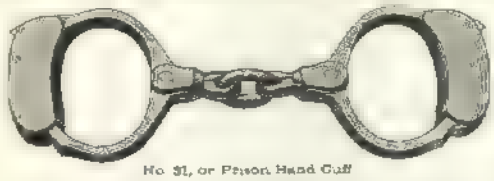
Bean's Giant Hand Cuffs. Weight, 10½ oz.

No. 23

These Hand Cuffs are known as Sheriff's or Detective's Cuffs. They cannot be picked or unlocked by the prisoner even should he have the key. There is but one key hole, and both cuffs are unlocked at same time. Light, strong, and convenient; take up but little space and are just the thing for Sheriffs and other officers who are obliged to take prisoners a long distance.

NO.	DESCRIPTION.	PER PAIR.
35	Bean's Giant Hand Cuffs, Nickel Plated,	$6 00

Bean's Prison Hand Cuffs. Weight, 17 oz.



No. 31, or Prison Hand Cuff

With patent Stop-Catch in the Lock, operated by button on the outside of case. The Stop-Catch Prevents them being locked by the prisoner in a struggle with the officer when making an arrest.

NO.	DESCRIPTION.	PER PAIR.
31	Bean's Prison Hand Cuffs, Polished,	$4 00
32	Bean's Prison Hand Cuffs, Nickel Plated,	4 75

Bean's Detective or Patrolman's Hand Cuffs. Weight, 14 oz.

No. 27. Detective's Pocket Hand Cuffs

These Cuffs are like the No. 31 and 32, the only difference being in weight, and are specially designed for officers whose duty compels them to carry cuffs on their person at all times.

NO.	DESCRIPTION.	PER PAIR.
27	Bean's Detective Hand Cuffs, Polished,	$4 00
28	Bean's Detective Hand Cuffs, Nickel Plated,	4 75

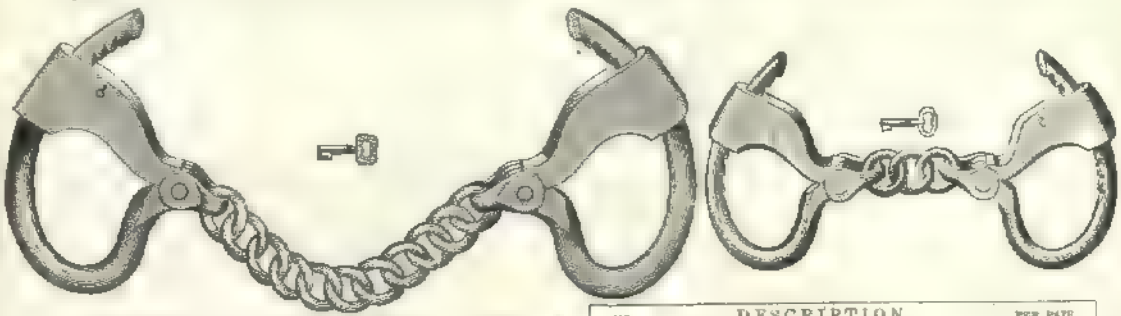
Bean's Patent Leg Irons.

Weight, 27 oz. Same locking device as the Hand Cuffs.

NO.	DESCRIPTION.	PER PAIR.
58	Bean's Leg Irons, Polished,	$5 00
68	Bean's Leg Irons, Nickel Plated,	7 00

Tower's Celebrated Double-Locking Adjustable Hand Cuffs and Leg Irons.

The Double Lock is not a mere name, but an fact *two secure Tumbler Locks*, one of which is self locking, and the other locked with the key. The adjustable feature of these shackles is too well known and appreciated to need any explanation.



NO.	DESCRIPTION.	PER PAIR.
50	Tower's Leg Irons, Polished,	$5 00
60	Tower's Leg Irons, Nickel Plated,	7 00

NO.	DESCRIPTION.	PER PAIR.
30	Tower's Hand Cuffs, Polished,	$4 00
30 S	Same as No. 30, with Stop,	4 00
40	Tower's Hand Cuffs, Nickel Plated,	4 75
40 S	Same as No. 40, with Stop,	4 75

Stove Trucks.

The "Daisy."

Mounted on Martin's Patent Double Wheel Casters.

	Per Dozen
"Daisy" Stove Trucks, Adjusts to any size Stove,	$30.00

Warner's Steel Truck.

Indestructable.

	Each
Warner's Stove Truck, made entirely of Steel and Iron,	$6.00

Boot Jacks.

No. 3.

No.		Per Dozen
3.	Boot Jacks, Japanned,	$1.75

No. 4.

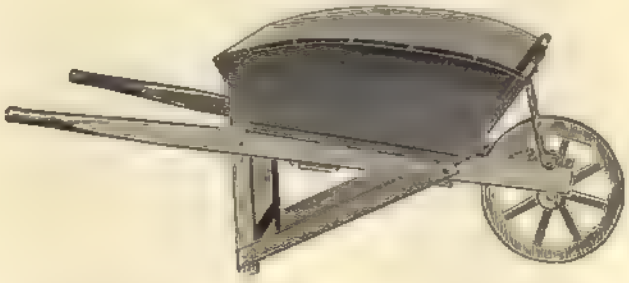
4.	Boot Jacks, Japanned, Beetle Pattern,	3.25

Half Dozen in a Package.

Wheel Barrows.

The Lansing Wheel Barrow Co.'s.

Mortar Barrows

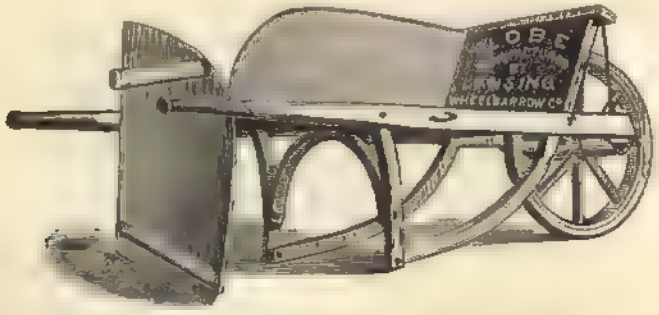


	Per Dozen
Mortar, Tight Box, 29 x 26 inches at Top, with 18 inch Iron Hub Wheel,	$48.00

Stone Barrows.

Stone, Bent Handles, Bottom 28 x 27 inches, Painted Brown, with Patent Iron Hub Wheel, Extra Heavy,	60.00

Garden Barrows.



Globe Garden Barrows, Box 30 x 19 inches, 18 inch Wood Wheel,	52.00
Globe Garden Barrows, Box 30 x 19 inches, 18 inch Steel Wheel,	58.00

Barrow Knocked Down, Wheels Separate.

Garden Barrow Wheels.

Wood Wheels for Globe Garden Barrows,	18.00
Steel Wheels for Globe Garden Barrows,	20.00

Boot Jacks.

NO.	DESCRIPTION.	PER DOZ.
6	Japanned, Beetle Pattern	$3 00
106	Bronzed " "	3 60

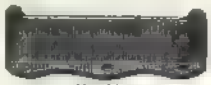
HALF DOZEN IN A PACKAGE.

No. 2.

NO.	DESCRIPTION	PER DOZ.
3	Japanned,	$1 60

ONE DOZEN IN A PACKAGE.

Foot Scrapers.



No. 14.

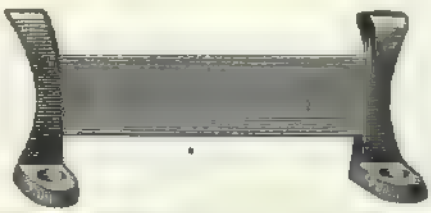
NO.	DESCRIPTION	PER DOZEN.
14	Japanned, for Wood,	$1 50

ONE DOZEN IN A PACKAGE.

No. 101.

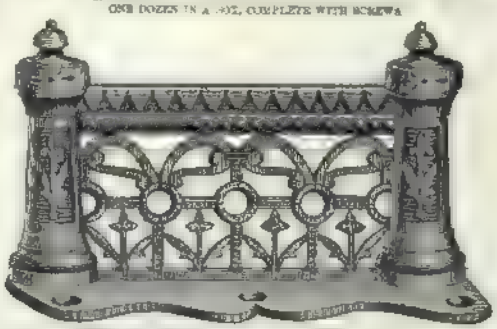
NO.	DESCRIPTION	PER DOZEN.
101	Japanned, Bessemer Steel,	$2 50

ONE DOZEN IN A BOX, COMPLETE WITH SCREWS.

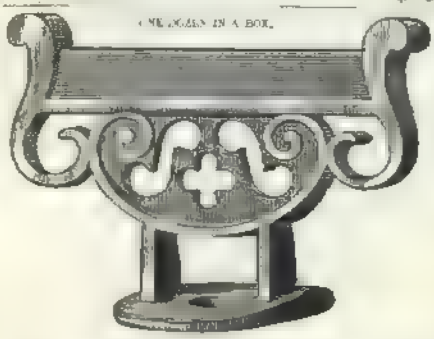


NO.	DESCRIPTION.	PER DOZ.
2	Japanned	$0 95

ONE DOZEN IN A BOX.

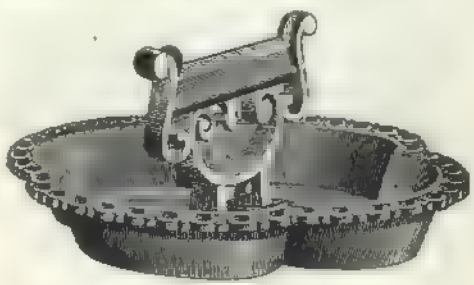


NO.	DESCRIPTION.	PER DOZ.
12	Japanned,	$3 00



NO.	DESCRIPTION.	PER DOZ.
4	Japanned,	$1 80

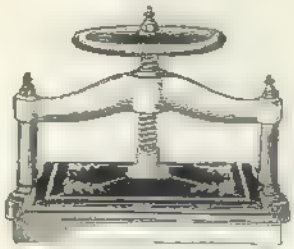
HALF DOZEN IN A PACKAGE.



NO.	DESCRIPTION	PER DOZ.
10	Japanned, with Dish, Cast in one Piece,	$7 00

Letter Presses.

With Wheel or Lever.



SIZE.	DESCRIPTION.	EACH.
10 × 12½	Plain Black,	$5 25
10 × 15½	Plain Black,	6 00
10 × 12½	Black and Bronze,	5 75
10 × 15½	Black and Bronze,	7 00
10 × 12½	Black, Carmine and Bronze,	6 50
10 × 15½	Black, Carmine and Bronze,	7 75

Twine Boxes.

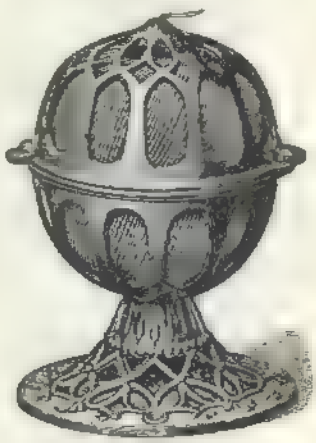
NO.	DESCRIPTION.	PER DOZ.
181	Bee Hive, Japanned,	$3 [illegible]

ONE IN A PACKAGE.

Twine Boxes.

NO.	DESCRIPTION.	PER DOZ.
20	Copper Bronzed, to Hang,	$2 80
30	Japanned, to Hang,	2 60

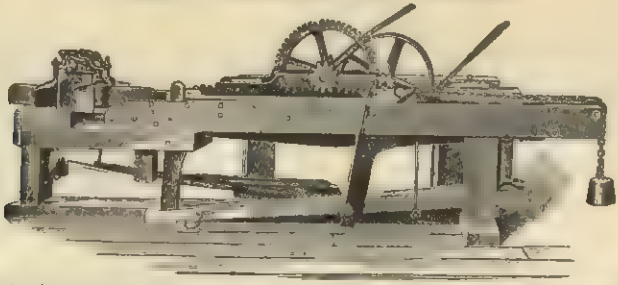
HALF DOZEN IN A BOX.



NO.	DESCRIPTION.	PER DOZ.
25	[illegible]	$4 75
3[illegible]	[illegible]	4 00

[illegible] HALF DOZEN IN A BOX.

BENSON'S IMPROVED STAVE BUCKER.

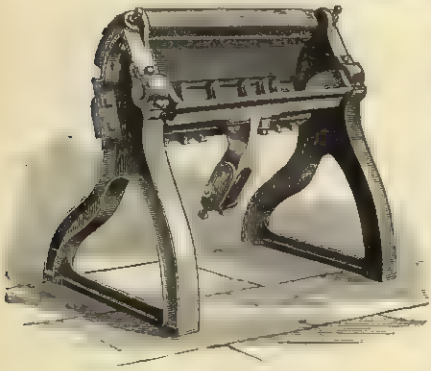


This is the latest and most popular of the improved machines for dressing or bucking rived staves for tight work. The above description in the main applies to it as well.

Capacity 9,000 to 12,000 staves per day. Pulley, 24 inches diameter, 7½ inches face. Speed, 400 revolutions for barrel stave size; 250 for hogshead size and 250 for pipe size. Power required 3 to 5 horse. Weight, 1,400 to 1,750 lbs. Width 3 feet. Length, 12 to 16 feet.

Price, for barrel staves, 36 inches, steam power $275 00
Same for horse power 180 00

IMPROVED CROSSET STAVE CUTTER.

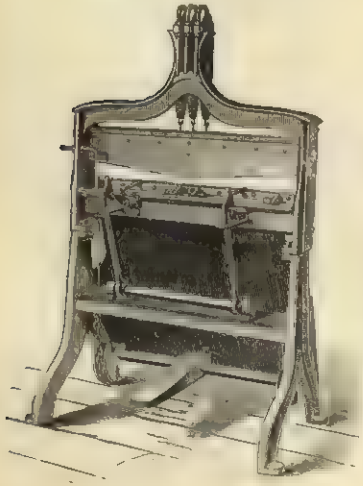


This machine has long been a standard in the market, and needs little description.

The back and knife are adjustable to provide for wear. When so ordered the ribs are faced with brass, to prevent coloring the staves, at an extra charge of $5 to $8. Countershaft is furnished when ordered, as per list below. Countershaft consists of shaft with crank, journal boxes, 44 or 60 inch fly-wheel, with face turned for belt.

Usual size of cutter is a 20 inch circle, 36-inch knife, for flour and fruit barrel staves. Capacity 20,000 to 30,000 staves per day. Speed of machine 100 to 120 per minute. Requires about 4-horse power.

	Weight, lbs.	Prices.
No. 1, Improved Crosset Stave Cutter, 36-inch Knife, with adjusting screws in Tumbler	1240	$140 00
No. 2, Improved Crosset Stave Cutter, 36-inch Knife	1200	130 00
No. 3, Crosset Stave Cutter, style No. 2, extra heavy, with 42-inch Knife	..	175 00
No. 4, Hogshead Stave Cutter, style No. 2, extra heavy, with 58-inch Knife	...	200 00
No. 5, Keg Stave Cutter, 24 inch Knife, with No 2 style of Frame	...	110 00
Straps, Boxes and Pitman for any of the above styles of Cutter	...	12 00
Counter Shaft and 44-inch Pulley Fly Wheel and Boxes	..	70 00
Loose, 44-inch Pulley on Counter Shaft, extra	...	20 00
Counter-Shaft, with 60-inch Pulley Fly Wheel	..	90 00

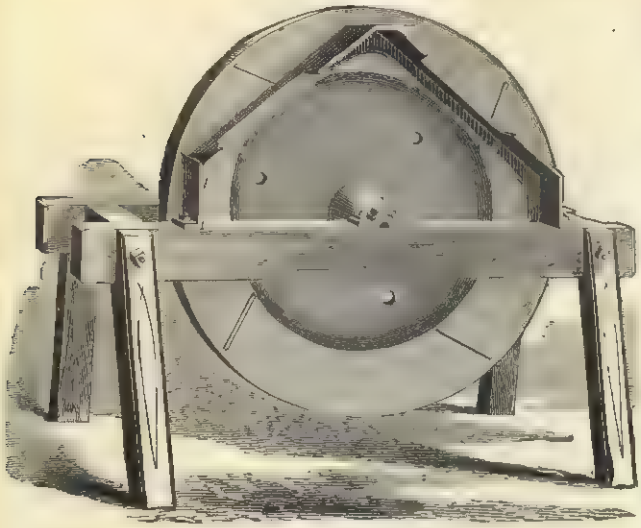


IMPROVED IRON FRAME STAVE JOINTER, WITH REMOVABLE KNIFE.

Our Improved Iron Frame Stave Jointer, for flour and other slack barrel staves, has a 32-inch knife, and a steel strip, or bed, to cut by. The springs are in the centre, which secures an even draw on the knife, unlike springs at the ends, and effectually prevents binding in the slides. Each spring can be separately adjusted, so as to make all draw alike. The backs are planed out to fit the knives all over, on the right curve for the bilge of ordinary slack barrels, and if it is desired to change the bilge, paper packing can be conveniently inserted between the knife and back. Set-screws will be put in to change the bilge, when so ordered, but are not recommended. Weight, 400 lbs.

Price, with 32-inch Knife, for Slack Barrel Staves, $70 00
" " 36 " " " " " " " 80 00
" " 24 " " " Keg Staves, 65 00

WOOD FRAME SHINGLE JOINTER.



This machine is of the most approved kind, solid bowl, 40 inches in diameter, long knife. Adapted to jointing shingles, heading, tub bottoms, etc. We also make a double jointer of same size, using two wheels, with double rests, whereby four persons can joint shingles at the same time.

Speed, 500 revolutions per minute. Size of pulley, 12 inches diameter, 4 inch face.

Will joint shingles up to 18 inches in length with double rest, and up to 24 inches with single rest.

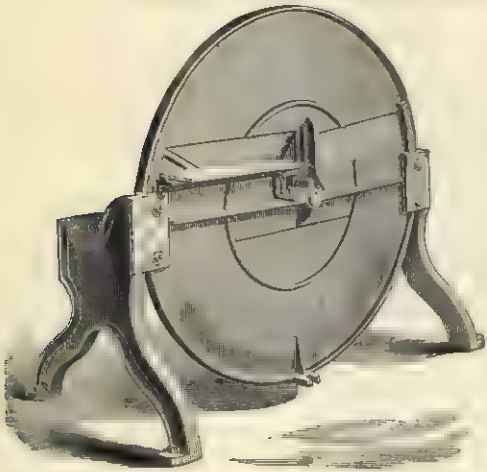
Single Wheel Jointers, in frames ready to run, $50 00
Double Wheel Jointers, 100 00

IRON FRAME JOINTERS.

The annexed cut shows our iron frame single-wheel Jointer, with wheel 3 feet in diameter, for jointing keg heading or shingles not over 20 inches long. It is fitted with tight and loose pulleys, 10 inches diameter and 3 inches face; speed about 800. A wrought iron band shrunk on around the rim gives great strength and secures safety at high speeds. It has four knives.

	Weight.	*Prices.*
Single 3-feet Wheel Jointer, for Shingles or Keg Heading	800 lbs.	$ 50 00
Double 3-feet Wheel Jointer, for Shingles or Keg Heading	700 "	95 00
4-feet Iron-frame Jointer, (not illustrated)	1000 "	100 00
62 inch " " "	2100 "	210 00

EUREKA HEADING JOINTER—FOR SLACK BARREL WORK.

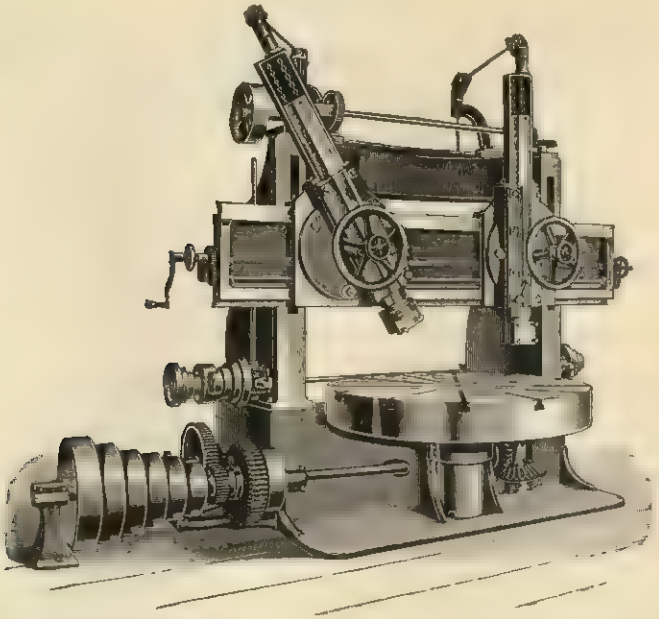


This new and improved Jointer is not so large and heavy as the 62-inch, and requires less power, and by reason of the length and position of its knives, will joint much longer heading than the 48-inch, with much less frequent grinding of the knives. It will ordinarily run four or five days on kiln-dried heading, but has been run as long as two weeks without grinding the knives, doing good work all the time. Its knives are 20 inches long, with steel caps, and are so placed in the wheel as to have an even draw cut over the entire length from heel to point, and at such an angle to the grain as to make a very perfect joint, even in poor timber. This is an excellent machine for dressing the edges of cheese box bottoms and tops, tub bottoms, and a large variety of similar work not over 20 inches in length. In its general appearance it is similar to the standard 48 inch, but is very different in essential parts. It will be furnished with a case when desired, as per price list, to make it act as a blower to carry away its shavings. It will joint about 8,000 pieces per day of ten hours. The wheel is solid, and has a wrought iron band tightly shrunk on the rim. Tight and loose pulleys, 13 inches diameter by 4 inches face. Speed about 700.

	Weight.	*Prices.*
Price, Eureka Jointer	1100 lbs.	$140 00
With Blower Case	1400 "	160 00

BICKFORD'S IMPROVED BORING AND TURNING MILLS.

(Cut illustrates 6-ft. Mill.)



The cut shows the latest production in boring and turning mill, from entirely new patterns, the result of furnishing a new shop with new and latest improved special tools for making 4, 5, and 6-foot mills an exclusive specialty, at a reduced cost. It is a well known fact among machinists that boring and turning mills possess many features of advantage for handling work not found in other tools, but owing to their expense they have not been so extensively used. These mills are furnished with single or double heads, heavy, strong, and powerful, self-contained and complete, with new and superior features. On the double mill the heads are right and left, so as to work close together, and will feed entirely independent. The tool spindles are 6 inches in diameter, octagon, bearing on alternate sides, which furnishes an excellent bearing with very little friction, and provisions for taking up wear, oiling, etc. The spindles operate at any angle, have quick hand adjustment, and powerful automatic feed in any direction, and counterbalanced in any position. Have steel tool-holders, which may be removed to use boring bars. Working parts are large, strong, and carefully fitted. All cut gears. Internal spur gear full size of table, insures steady and powerful motion, devoid of lifting or chattering tendencies.

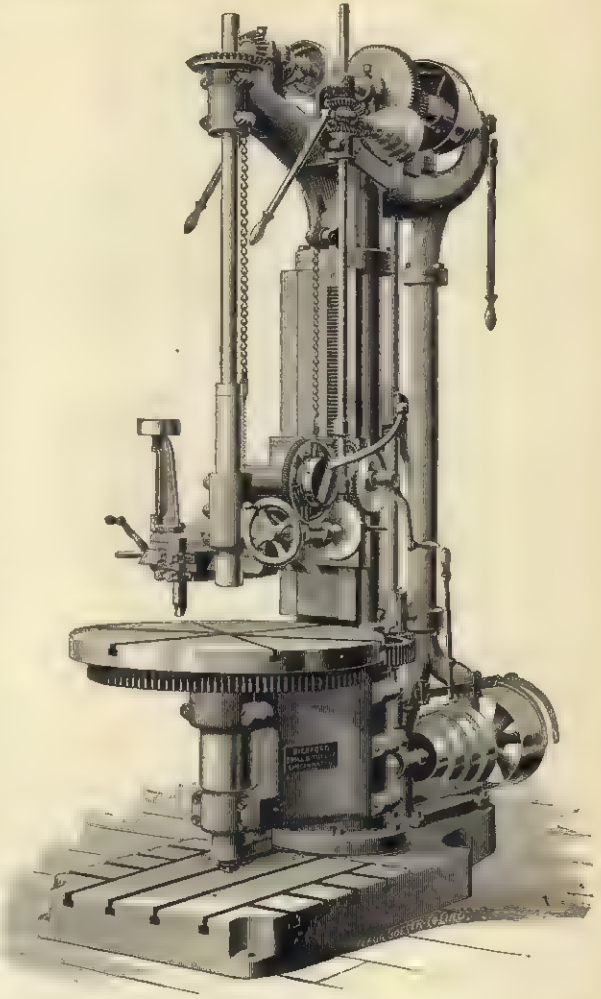
The 4-Foot Mill has a base 63 x 60 inches; extreme height, 10½ feet; table, 50 inches diameter; spindle, 8 feet diameter, 4 feet long; 50 inches between uprights, and 36 inches under cross-rail; tool spindle feeds 20 inches; tight and loose pulleys, 20 inches diameter, 5-inch face, should run 130 revolutions per minute; weight, 13,000 pounds.

The 5-Foot Mill has a base 63 x 78 inches; extreme height, 11 feet; table, 54 inches in diameter, with 10-inch spindle 4 feet long; takes 62 inches between uprights, and 38 inches under cross-rail; tool spindle feeds 24 inches; tight and loose pulleys, 24 inches diameter, 5-inch face, and should run 130 revolutions per minute; weight, 16,000 pounds.

The 6-Foot Mill has a base 63 x 90 inches; extreme height, 11½ feet; table, 62 inches in diameter, with 12-inch spindle 4 feet long; takes 74 inches between uprights, and 40 inches under cross-rail; tool spindle feeds 30 inches; tight and loose pulleys, 24 inches diameter, 5-inch face, and should run 130 revolutions per minute; weight, 20,000 pounds.

Write for Prices.

DRILLING, BORING AND TURNING MACHINE.



This is a new 40-inch boring and turning mill, in combination with a 40-inch upright drill of latest design.

The machine is constructed for durability and convenience of handling, and has many new features and improvements.

The strong spindle of the table revolves in two long bearings of the swinging arm. A hardened steel toe inserted in the end of the spindle finds its support on a steel-plate, submerged in oil. This plate can be raised or lowered by means of a screw, according to the desired speed of the revolving table.

The table, with its supporting arm, can easily be swung around the column on anti-friction rollers in an annular groove at the bottom of the arm, and by fastening the foot-bearing to the base-plate, it brings the center line of the table-spindle exactly central with the drill-spindle, and no setting or adjusting is required. The table is indirectly driven from the top shaft of the machine by means of a steel miter-wheel, which matches into a miter-wheel on the vertical shaft between column and back brace. At the end of this shaft, which can be raised or lowered to bring the miters out or into match, is a spur-pinion, which drives, by means of the column surrounding intermediate wheel, the spur ring of the table. By the peculiar appliance and combination of the gearing on the top shaft, the spindle and the table can revolve together, thus giving the machine the qualification of a double-head boring and turning mill.

The front arm has on the left side a strongly braced extension, which carries the carriage and tool-holder. The carriage can be fed automatically or by hand from the right to the left, or *vice versa*, same as on any ordinary turning mill. There are five different feeds for turning, as well as for drilling or boring, and eight different speeds for the rotation of table and spindle. The front arm or head and spindle are counterbalanced by chain and weight. All handles for changing feeds or speeds of the machine are in convenient reach. The spindle-shafts and studs, likewise the main gearing, are made of steel. Price as shown, $850.00.

Bicycle Sundries.

New Departure Bells.

NO.	DESCRIPTION	PER DOZEN
D	1¾ inch, Single Stroke, Nickel Plated, Weight 2 ounces,	$6 00

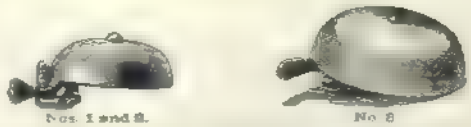
NO.	DESCRIPTION.	PER DOZEN.
M	1¾ inch, Electric Ring, Operated by Thumb or Cog Wheel, no Projecting Lever, Nickel Plated, Weight 3 ounces,	$12 00

NO.	DESCRIPTION.	PER DOZEN.
S	2¼ inch, Double, Electric Ring, Nickel Plated, Weight 4 ounces,	$15 00

NO.	DESCRIPTION	PER DOZEN
C	2¼ inch, Double, Electric Ring, Nickel Plated, Weight 4¼ ounces,	$18 00

NO.	DESCRIPTION.	PER DOZEN.
B	2¾ inch, Double, Electric Ring, Weight 7½ ounces,	$21 00
A	3 inch, Double, Electric Ring, Weight 10 ounces,	24 00

Bells.



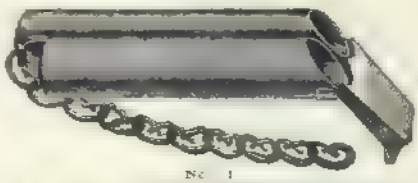
Nos. 1 and 2. No. 3

NO.	DESCRIPTION.	PER DOZEN
1	2¼ inch, Nickel Plated, Bronze Fastening,	$4 80
2	3 inch, Nickel Plated, Bronze Fastening,	7 20
3	3½ inch, Nickel Plated,	9 60

London Chime Bell.

NO.	DESCRIPTION.	PER DOZEN.
4	3 inch, Double Chime, Full Nickel Plated,	$12 00

Whistles.



No. 1

NO.	DESCRIPTION	PER DOZEN
11	"Hoodoo," Nickel Plated, with Chain, Large,	$3 00
12H	"Hoodoo," Nickel Plated, with Chain, Small,	2 62

DESCRIPTION.	PER DOZEN.
Single Tube Whistle, Nickel Plated	$3 00

NO.	DESCRIPTION	PER DOZEN.
	Single Tube Whistle, Nickel Plated, Large	$3 00

Horns

NO.	DESCRIPTION	PER DOZEN.
1	Small,	$15 00
2	Medium,	18 00

Bicycle Sundries.

Chain Locks.

NO.	DESCRIPTION	PER DOZEN
8	1¼ inch, Cast Brass, Highly Polished,	$4 00
9	1¼ inch, Cast Brass, Nickel Plated	5 00

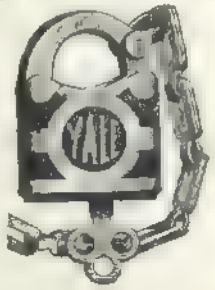
[illegible] ing, with spring shackle, sliding bolts, phosphor-bronze springs, strong 17-inch steel chain, nickel plated. One drilled pipe key with each lock. Weight one ounce, 1¾ inches wide.

NO.	DESCRIPTION	PER DOZEN
10	Aluminum,	$5 90

A [illegible] hardened steel [illegible] bronze [illegible] has great [illegible] are made [illegible] are [illegible] has [illegible] great durability [illegible] weighs [illegible] of [illegible] shackle are [illegible] steel [illegible] with [illegible] spring [illegible] and [illegible] nickel plated [illegible] inch [illegible] chain with [illegible] lock. Complete lock weighs about one [illegible].

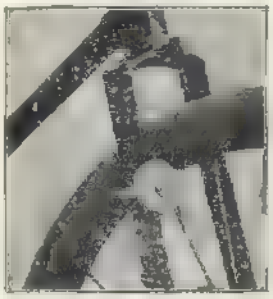
NO.	DESCRIPTION.	PER DOZEN.
11	Gun Metal,	$4 50
12	Gun Metal Nickel Plated	5 80

All parts very stout and strong. [illegible] metal bolts, bumpers and key-guide, phosphor bronze springs. Two cast gun metal keys, bored, tinned and polished [illegible] Steel [illegible] and [illegible] spring [illegible] inches.



DESCRIPTION	PER DOZEN
Yale, Bronze,	$[illegible] 00
Yale Nickel Plated	18 00

The Perfect Lock.



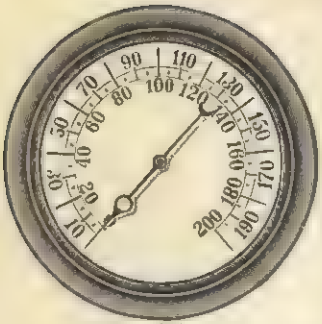
Unlocked

Locked

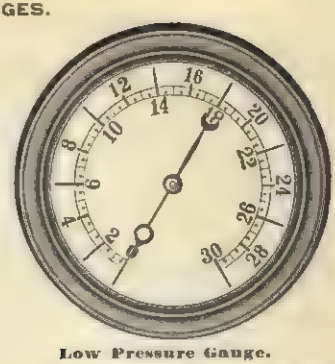
DESCRIPTION.	PER DOZEN.
Perfect Bicycle Locks,	$12 [illegible]

The Perfect Bicycle Lock is [illegible] fork [illegible] the levers and [illegible] depth of the [illegible] under side of the fender, which prevents it from [illegible] the other [illegible] attached. [illegible] of the [illegible] and [illegible] kept by [illegible] washers [illegible] be lightened or fastened to the fork by two steel screws with a screw driver, then keyed through the coupler and screwed with pins, which makes it impossible to remove them except by drilling. It can be attached in two minutes' time, and when once locked [illegible].

BOURDON STEAM GAUGES.



Standard Gauge.

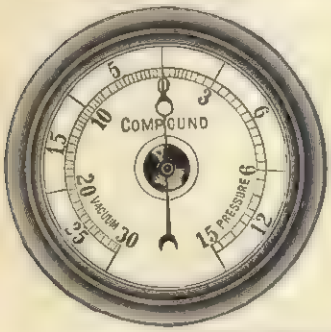


Low Pressure Gauge.

Diameter of Dial, inches	3	3½	4½	5½	6	6¾	8½	10	12
Brass Case, each	$8 00	9 00	10 00	12 50	16 00	20 00	30 00	40 00	75 00
Iron Case, Japanned, each	6 00	7 00	8 00	10 00	13 00	16 00	22 00	32 00	50 00

SPECIAL 5-inch gauge, high or low pressure, iron case only, $6.00.

COMPOUND PRESSURE AND VACUUM GAUGE.



HYDRAULIC GAUGE.

COMPOUND PRESSURE AND VACUUM GAUGES.

These gauges are graduated for pressure in pounds per square inch, and for Vacuum in inches of mercury column or pounds per square inch as may be desired; fifteen pounds of pressure being equal to thirty inches of vacuum. If a pressure exceeding fifteen pounds is required it should be stated in ordering.

Diameter of Dial, inches	6¾	6	6¾	8½	10	12
Brass Case, each	$16 00	20 00	25 00	30 00	50 00	80 00
Iron Case, Japanned, each	14 00	16 00	20 00	30 00	40 00	60 00

Deep cases, octagon rings and nickel-plating, extra.

HYDRAULIC GAUGES.

Diameter of Dial, inches	6	6¾	8½	10	12
Brass Case, each	$40 00	60 00	80 00	100 00	125 00
Iron Case with Brass Rim, each	35 00	50 00	70 00	90 00	110 00

$5.00 extra for *maximum hand*. No extra charge for marking "*Tons on Ram*" on dials.

AMMONIA GAUGES.

(Not illustrated.)

Diameter of Dial	6	6¾	8	8½
Iron Case, Brass Ring	$35 00	40 00	45 00	45 00
Iron Case, N. P. Ring	35 00	40 00	45 75	45 75

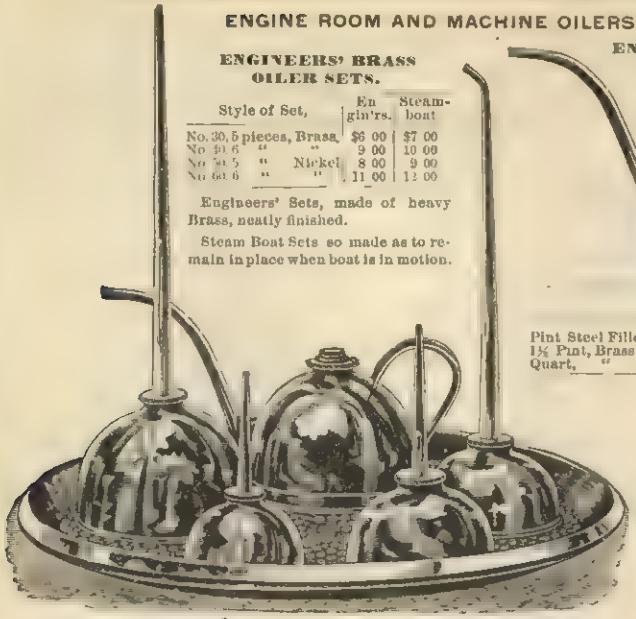
ENGINE ROOM AND MACHINE OILERS.

ENGINEERS' BRASS OILER SETS.

Style of Set,	Engineers.	Steamboat
No. 30, 5 pieces, Brass,	$8 00	$7 00
No. 31 6 " "	9 00	10 00
No. 50 5 " Nickel	8 00	9 00
No. 61 6 " "	11 00	12 00

Engineers' Sets, made of heavy Brass, neatly finished.

Steam Boat Sets so made as to remain in place when boat is in motion.



ENGINEERS' FILLERS.

	Diam.	Height	Per Dozen.
Pint Steel Fillers	4¼	8¼	$14 00
1½ Pint, Brass	4¾	4	22 00
Quart, "	5	5	36 00

DEVERALL'S ENGINE OILERS.

	Per doz.	Tin Straight	Brass Straight	Capacity.
No. 1, 8 inch Spout		$2 90	$ 9 25	1 pint.
No. 2, 8 " "		3 25	11 75	1½ "
No. 3 8 " "		3 75	12 50	1 quart.

Deverall's Engine Oilers.

Deverall's Bench Oiler.

DEVERALL'S BENCH OILERS.

	No. 1	No. 2	No. 3.
Tin brass bottom per doz.	$2 25	$2 75	$3 50
All Brass "	3 00	3 75	5 00
All Tin, without steel tip "	1 50	1 60	2 50

DEVERALL'S LOCOMOTIVE OILERS.

(Not Illustrated.)

	Tin.	Brass.
Locomotive, 1¼ pint	$ 9 60	$10 00
" 3 "	12 00	24 00

ZINC OILERS.

Spring Bottom.

(Not Illustrated.)

Numbers.	Price per Dozen.
0	$1 25
1	1 50
2	2 00
3	2 25
4	2 75
5	3 50
6	4 50

MALLEABLE IRON OILERS.

Price No. 1..... per doz., $3 60
Price No. 2 ..... " 4 00
Price No. 3..... " 4 40

Malleable Iron Oiler.

Draper Steel and Brass Oilers.

STYLE. No.	Diam.	Length of Nozzle.	Steel. Per doz.	Brass. Per doz.
12	2¼	2¾	$4 50	$8 00
13	3	3	5 50	9 00
14	3½	3	6 50	12 00
15	4	3	8 25	13 00
16	4½	3	10 50	14 00

VALVE BOX PATTERN STEAM TRAP.

Side opening is inlet, and top opening is outlet. Set Trap level. There should be a direct drip pipe, with valve, from return pipe (close to the Trap) to hot water receiver. Put air cock in the hole in the cover. Put drain cock in hole at bottom of Trap. To start Trap, open vent cock a few minutes. In very cold weather open drip valve, to get freer discharge.

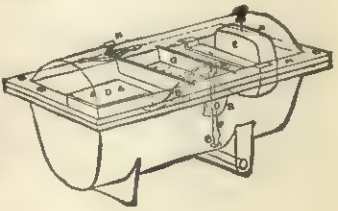
Outside Diameter (at bottom), inches	12	15	18
Price, each	$23 00	36 00	54 00
Capacity 1-inch Pipe	1,500	3,500	5,000

CHAPMAN STEAM TRAP.

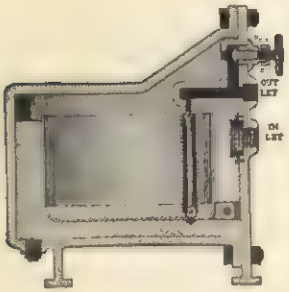
The Chapman Steam Trap is a staple in the trade. It makes a complete separation of the water of condensation from the steam. It discharges water without blowing, allowing no steam to escape.

In ordering, advise boiler pressure carried.

No. 1 drains 1,500 ft., 1-inch pipe inlet and outlet 1-inch	$25 00
No. 2 drains 3,000 ft	35 00
No. 3 drains 7,000 ft	60 00
No. 4 drains 10,000 ft	70 00



KIELEY'S STANDARD STEAM TRAP.



For automatically draining condensation from all kinds of steam apparatus. It will work under a pressure of from 10 to 150 pounds. The float cannot collapse, and, being hinged to the cover, its power is increased to three or four times that of other open floats used in drain traps. All working parts are fastened to the cover, to which are also connected the inlet and outlet pipes. By simply unbolting the body of the trap and moving it back, all the working parts can be seen in working position. This trap can be taken apart and cleaned without disconnecting a single pipe. The by-pass, when open, will allow the air and water to pass out of or through the trap independent of the opening controlled by the float—which is of great advantage, outside of avoiding the otherwise usual cost of making a by-pass. In ordering, state whether for high or low pressure.

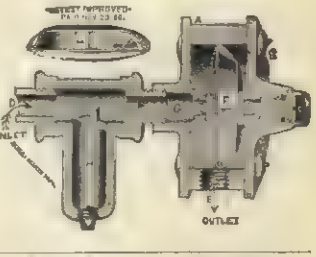
Number	1	2	3	4	5
Inlet, inches	¾	1	1¼	1¼	2
Outlet, inches	¾	1	1¼	1¼	2
No. of lineal feet of 1-inch pipe Trap will drain	4,000	6,000	10,000	15,000	25,000
Price, each	$25 00	35 00	45 00	60 00	80 00

HAWES' STEAM TRAP.

By complying with directions below, the engineer can greatly lessen his abor in handling of fuel, besides saving much fuel.

DIRECTIONS.

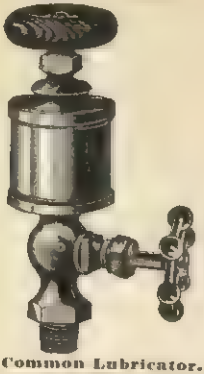
Locate the Trap *where the heat is below 110 degrees.* Connect Sediment Trap **H** to Pipe **D.** Remove Cap Nut **C,** turn Screw **K** hard up, let steam on. Adjust Screw **K** so as to leave water packing in pipe back of Trap. Never allow steam to pass through the Trap. Regulate Valve **G** to largest pressure, when adjusted properly, screw cap nut on tight. Water may be elevated two feet for each pound pressure, by connecting pipe at Outlet **E.** Live or exhaust steam may be used by opening one valve and closing the other. If pressure is unequal, two Traps or more must be used. If sediment is too abundant, substitute an open-way valve for plug, and blow out often.



Number of Trap	1	2	3	4	4½	5	00
Tapped for Pipe, inches	½	¾	1	1¼	1¼	1½	¼
Lineal feet of 1" Pipe will drain	500	1,000	2,000	4,000	10,000	20,000	100
Price, each	$11 00	16 00	21 00	26 00	35 00	50 00	6 00

BRASS OIL CUPS AND COMMON LUBRICATOR.

Plain Cup. Fig. 322.



Common Lubricator.

Lever Handle Cup. Fig. 324.

Number	00	0	1	2	3	4	5	6	7	8	9
Outside Diameter, inches	⅝	¾	⅞	1	1⅛	1¼	1⅜	1⅝	2	2¼	2½
Pipe Thread, inches	⅛	⅛	⅛	¼	¼	¼	¼	¼	¼	¼	¼
Plain Cups, Fig. 322, each	$0 25	30	35	40	50	65	1 25	1 60	1 85	2 25	2 75
Add to list for Brass Tubes, each	10	10	10	10	15	15	15	15	15	20	20
Lever Handle Cup, Fig. 324		90	1 00	1 10	1 60	2 20	2 75	3 00	3 25	4 00	5 00

COMMON LUBRICATORS—Threaded.

Outside Diameter of Bowl, inches	1	1¼	1½	1⅝	2	2⅜	3	3¼	4
Price, each	$2 00	2 20	2 40	2 60	2 90	4 75	4 75	7 00	10 00

SOLID GREASE CUPS, SHAFT OILERS, NEEDLE VALVE OIL FEEDER.

Fig. 513. Tiger. Plain Grease Cup is cast brass, well adapted for jarring machinery. By screwing down cap (A) one turn every three or four days sufficient lubrication is given. Always keep leather washer (B) well expanded against the thread by screwing up plate (C). This plate can easily be tightened or unscrewed by using a pointed tool, inserting it in one of the holes in plate and striking it with a hammer.

Fig. 511. "Jewell" Grease Cup is a simple and inexpensive automatic cup. It is of brass throughout, has a leather packed plunger, and is of neat design and well made.

Directions. When cup is empty and plunger is at bottom of cup, unscrew and take off chamber, lift the plunger to top of chamber and secure it in this position by means of spring lock arrangement; then fill the cup with grease, and after screwing it back to its base, release the spring lock so as to put the pressure on the grease.

Fig. 533. The Cody Oiler is a reliable air-tight oil cup for shafting. It is provided with a set screw to regulate the feed. One filling will last for months. It is also made with wood shank and loose wire feed without extra cost.

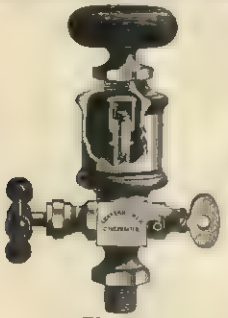


Fig. 496.
Auto. Needle Valve Oil Feeder.

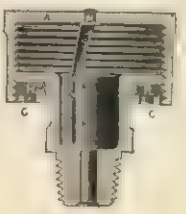


Fig. 513.
The Tiger.

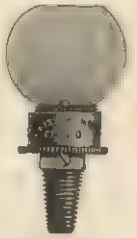


Fig. 533.
Cody Shaft Oiler.

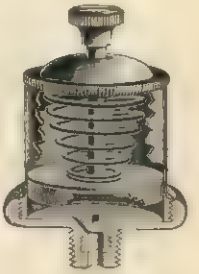


Fig. 511.
The Jewell.

Fig. 511. JEWELL GREASE CUP.

Capacity, ounces	½	1	1½	3	4½	6½
Pipe Thread	⅛	¼	¼	¼	¼	¼
Price, Brass	$0 80	1 00	1 30	1 80	2 30	3 30

Fig. 513. TIGER GREASE CUP.

Capacity, ounces	½	1	1½	3	4½	6½
Pipe Thread	⅛	¼	¼	¼	¼	¼
Price, rough Brass	$0 56	64	96	1 28	1 76	2 40

Fig. 496. AUTO. NEEDLE VALVE.

Diameter, inches	1¼	2	2½	3
Capacity, pint	¼	½	¾	1
Pipe Thread, inches	⅛	¼	¼	¼
Plain Top, each	$4 70	6 20	7 70	9 00

Fig. 533. CODY SHAFT OILER.

Number	1	2	3
O. Diameter, inches	1¾	2	2½
Price, each	$0 50	55	60

Shanks are threaded ¼ inch on point, 16 threads to the inch. Extra glasses 8 cents each, net.

PATENT DRIP VALVES, WIPER CUPS, DRIP TROUGHS, ETC.

Oiling Devices for High Speed Engines.

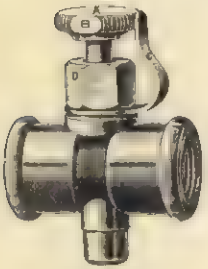


Fig. 499. Straight Drip Valve.

Fig. 500. Angle Drip Valve.

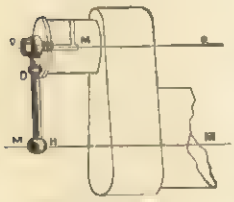
Fig. 503. Adjustable Wiper Cup for Wick.

Fig. 505. Plain Wiper Cup.

		Brass.	Nickel Plated.
Fig. 499	Straight Drip Valve, each	$1 00	$1 75
Fig. 500	Angle Drip Valve, each	1 25	1 50
Fig. 503	Adjustable Wiper Cup ¼ or ⅜ inch Pipe, each	2 50	3 00
Fig. 505	¼ Inch Pipe Thread, 1¼ inch outside diameter, each	1 00	1 20
Fig. 505	⅜ Inch Pipe Thread, 1⅝ inch outside diameter, each	1 50	1 75
Fig. 505	½ Inch Pipe Thread, 2 inch outside diameter, each	2 00	2 40

Straight and Angle Drip Valves are tapped ¼ or ⅜ inch pipe thread, to be used in connection with ¼ or ⅜ inch iron pipe size brass tubing. In ordering mention size of pipe thread wanted.

CRANK PIN OILER ARMS AND FLOOR STANDS.



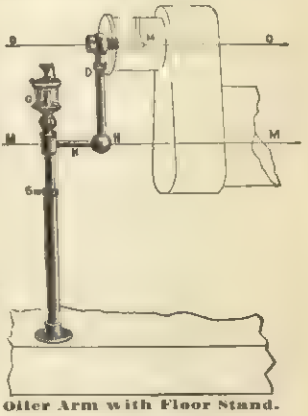
Plain Oiler Arm.

Our Plain Crank Pin Oiler Arm is intended to be used as an auxiliary to crank pin cups, to afford an extra and direct means of lubricating the crank pin WHILE THE ENGINE IS IN MOTION, by squirting oil with an oil can through hole in ball (H). In ordering these give stroke of engine.

The large cut shows the complete device WITH ADJUSTABLE OIL CUP STAND. This device gives direct continuous lubrication to the crank pin from the adjustable oil cup on the floor stand. *In ordering either of these, give stroke of engine and distance from center of crank shaft to floor.*

Number	1	2	3
Length of Stroke	Up to 15 in.	Up to 30 in.	Up to 60 in.
Thread on bolt (O), pipe thread	⅜ in.	½ in.	½ in.
Plain Oiler Arm, brass, each	$ 6 00	$ 7 00	$ 9 00
Plain Oiler Arm, nickel plated, each	7 00	8 00	11 00
Oiler Arm, with floor stand, brass, each	15 00	17 00	21 00
Oiler Arm, with floor stand, nickel, each	18 00	20 50	25 00

The complete Oiler Arm is provided with an adjustable sight-feed oil cup of proportionate size.



Oiler Arm with Floor Stand.

OIL GAUGE FOR SELF-OILING JOURNAL BOXES OF DYNAMOS.

Plain.

The glass protecting shield is a "half tube," which permits being revolved around the glass tube, so that it can be kept clean, and the shield is set in proper position, as regards the light, so the oil is plainly visible. The inside of the shield is plated to act as a reflector.

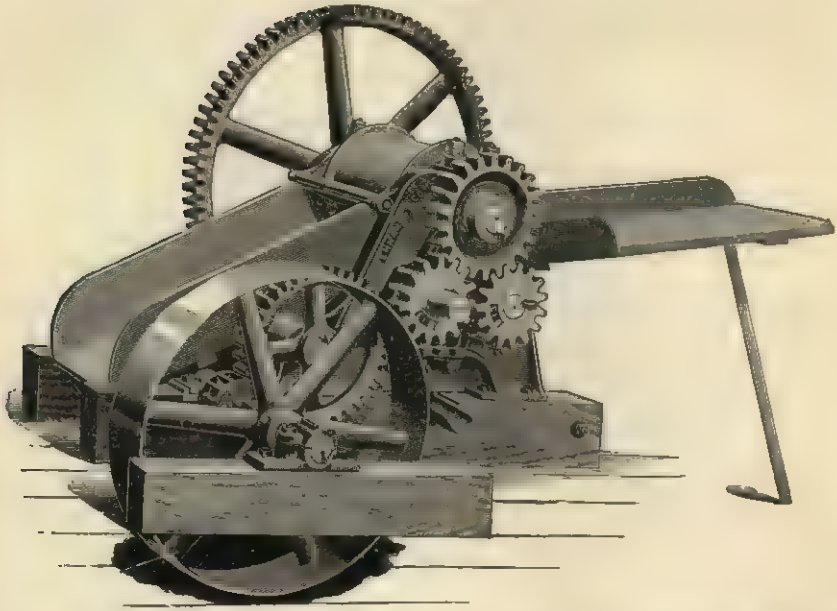
Size, Shank	½	⅝	¾	⅞
Brass, without drain cock, each	$0 40	50	65	1 00
Plated, without drain cock, each	55	65	80	1 20
Brass, with drain cock, each	80	90	1 05	1 40
Plated, with drain cock, each	1 00	1 10	1 25	1 65

In ordering Oil Gauges state length of glass wanted, and whether wanted with or without drain cock. When not stated, gauges will be sent with drain cock. An extra charge will be made for gauges of unusual length.

With Drain Cock.

KENTUCKY GIANT MILL—B.

Double Geared.



This Mill has three rolls, and is designed for steam or water power. It is heavy and strong, and is made for operators requiring large capacity.

The different parts are strongly made and well braced. Both upper and lower rolls have scrapers that keep them clean and prevent pieces of cane, etc., from getting into the juice pan. The shafts are all steel and boxes are brass lined.

A feed hopper and bagasse shoot, as shown in cut, are attached to each machine.

These mills are double-geared to belt direct to engine. The standard pulley furnished with each mill is 30-inch diameter by 6-inch face, and should make 100 revolutions per minute. Pulley shaft is reversible so pulley can be placed on either side. Size of pulley can be changed, if ordered, to suit speed of engine.

Bagasse carrier can be attached at any time.

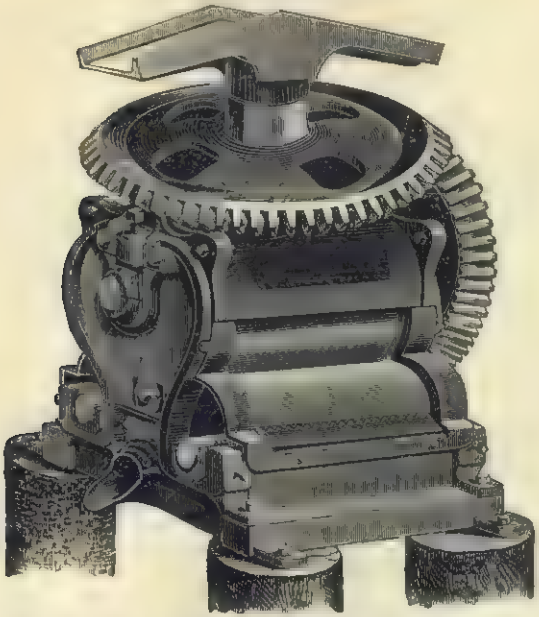
Power required is 4 to 6-horse power. The capacity given is estimated from work of mill in first-class cane. The capacity of any machine depends on power, grade of cane, and ability of operator. We guarantee the mill to do as much work as any other mill of like size.

Estimated Capacity		Diameter Rolls.		Length of Rolls Between Flanges.		Weight.	Price.
Per Hour.	Per 12 Hours.	Large.	Small.	Large.	Small.		
Gallons Juice 150 to 200	Tons Cane 8 to 10.	12½ Inches.	10½ Inches.	14 Inches.	14 Inches.	1 800 Pounds.	$200 00

Price, Bagasse Carrier, 10 feet long, with Malleable Iron Driving Chain in place of Bagasse Shoot $50 00

KENTUCKY HORIZONTAL GEARED MILLS.

The "Falls City" Pattern.

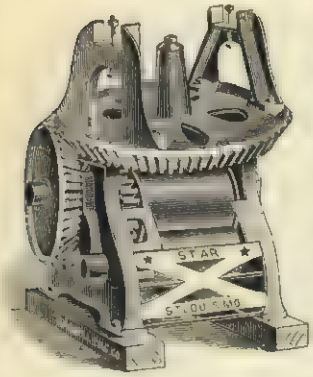


This mill is built extra heavy and strong, and is reversible like our Vertical Mills, that is, the horses can walk either way. The operator can easily make a wood table or feed trough, to be placed on a line with the opening between the two rolls which will hold the cane while it is being drawn through, and enable him to feed much faster. This mill is intended for two horses, but for light use one horse can operate it. It runs very lightly, being of the same excellent construction throughout as all our *Kentucky* line.

Length of large roll 14 inches diameter 11½ inches. Length of small roll 13⅞ inches diameter 7¼ inches, weight 1,250 lbs.

Price $150 00

STAR SWEEP CANE MILLS.



These Mills are among the best known in the market. They have very large capacity, and their excellent construction makes them the cheapest of any to buy, because of their durability and the small expense for repairs.

The main or upper roller is stationary; the feed or lower front roller is self-adjusting—allowing it to adapt itself to the different sizes of cane and to uneven feeding. The crushing or lower back roller is also adjustable, and can be set firmly against the main or upper roller, or at any desired distance from it, and held firmly in the position set.

No. 1 Star Sweep Mill.—Adapted to one or two horses; Capacity, ¾ ton of cane per hour; Main roll 10 inches, lower rolls 6 inches diameter, 10 inches long; Weight, 800 lbs.

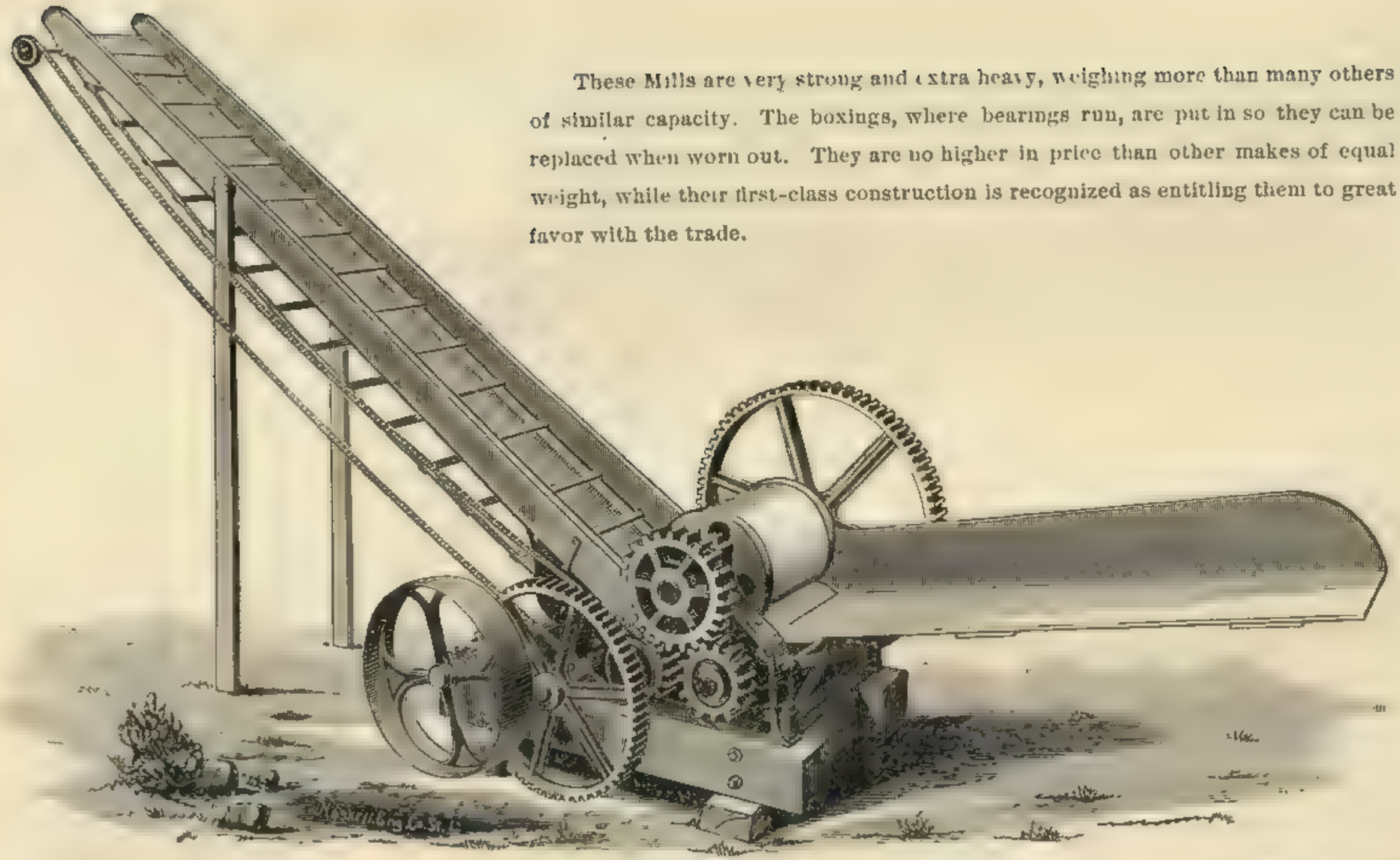
Price $100 00

No. 2 Star Sweep Mill. For two to four horses; Capacity, 1 ton per hour; Rolls, same diameter as No. 1, 16 inches long; Weight, 1,000 lbs.

Price $125 00

KENTUCKY STEAM POWER CANE MILL.

Cut represents Nos. 3 and 4, with Bagasse Carrier and Feed Table.



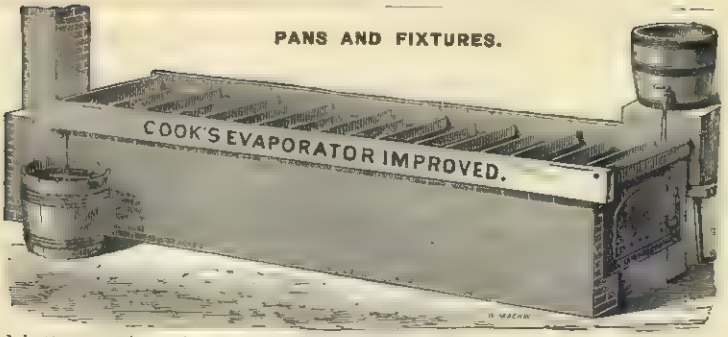
These Mills are very strong and extra heavy, weighing more than many others of similar capacity. The boxings, where bearings run, are put in so they can be replaced when worn out. They are no higher in price than other makes of equal weight, while their first-class construction is recognized as entitling them to great favor with the trade.

No. 3 Mill.—CAPACITY—2 tons per hour, power required, 8 to 10 horse-power, steam or water. Main roll, 16 inch diameter; small rolls, 10 inch—all 12 inches long. Price, $250 00. Weight, 3,000 pounds. Extra for Feed Table and Bagasse Carrier, $80.00.

No. 4 Mill.—CAPACITY—3½ tons per hour; power required, 12 to 15 horse-power, steam or water; rolls same as in No. 3. Price, $350 00. Extra for Feed Table and Bagasse Carrier, $85.00.

Larger sizes made as required. Send for special circulars and prices.

PANS AND FIXTURES.



Solid bottoms used; no rivets or soldered seams over the fire. Each pan is furnished with two skimmers at prices below.

REDUCED PRICE LIST.

No.	Size of Pan	Estimated Capacity per day.	Weight.	Galvanized Iron.	Heavy Copper	No.	Size of Pan	Estimated Capacity per day.	Weight.	Galvanized Iron.	Heavy Copper
1	44 x 62 in.	20 to 30 gal	50 lbs.	$18 00		5	44 x 126 in.	75 to 120 gal	115 lbs.	$40 00	$ 85 00
2	41 x 72 "	30 to 40 "	55 "	20 00	$50 00	6	44 x 144 "	100 to 140 "	130 "	50 00	100 00
3	41 x 90 "	40 to 50 "	70 "	25 00	60 00	7	44 x 180 "	125 to 175 "	160 "	60 00	125 00
4	44 x 108 "	50 to 80 "	95 "	30 00	70 00						

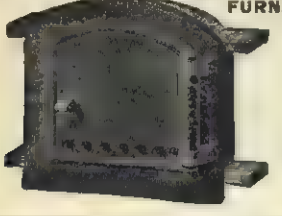
In ordering Pans and Evaporators be very explicit. An EVAPORATOR means Pan, Furnace, Grate and Chimney. When a pan is wanted order PAN only. By attention to this mistakes will be avoided. When Pan is wanted for stationery arch, please so state.

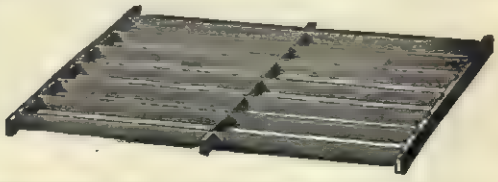
PORTABLE EVAPORATORS.

For Nos. 2, 3, 4 and 5 pans, portable furnaces are provided, as shown in the above cut. These are made of cast iron and sheet iron, heavily bound and riveted, to be lined with brick, and the whole mounted upon rockers of angle iron, thus furnishing a complete portable furnace of iron and brick combined in one with all the advantages of both, and yet so light that it can be easily handled by two men. In following prices are included **Two Skimmers, Rockers, Grate and Chimney complete.**

No	Size, Inches.	Gals per day	Weight, lbs	Copper	Galv Iron	No	Size, Inches	Gals per day	Weight	Copper	Galv Iron
2	44 x 72	40 to 60	275	$ 75 00	$ 45 00	4	44 x 108	60 to 90	350	105	$ 65 00
3	44 x 90	55 to 75	300	80 00	55 00	5	44 x 126	75 to 120	400	125	75 00

FURNACE DOORS AND GRATE BARS, FOR EVAPORATORS.





No	Name	Extreme Size	Size of Door	Price.	Weight
1	Light Furnace Front and Door.	31 in x13⅞ in.	12⅛ in. x 9 in.	$4 00	35 lbs
2	Grate for same.	30 " x18 "	.....	3 00	43 "
3	Heavy Furnace Front and Door.	28¼ " x14½ "	18 in x10 in.	6 00	56 "
4	Grates for same (6)	32 " x18 "		8 00	150 " Set.

Bronze Clocks.

NO.	DESCRIPTION	EACH
23	Brearns, 8 Day, Half Hour Strike on Cathedral Gong with Empire Sash, Porcelain Dial, Visible Escapement Height, 16 in., Width, 20 in., Dial, 6 in.	$25 80

Brearns

Carthage

NO.	DESCRIPTION	EACH
26	Carthage, 8 Day, Half Hour Strike on Cathedral Gong with Empire Sash, Porcelain Dial, Visible Escapement Height, 20 in., Width, 20 in., Dial, 6 in.,	$33 70

NO.	DESCRIPTION	EACH
18	Flower Girl, 8 Day, Half Hour Strike on Cathedral Gong with Empire Sash, Porcelain Dial, Visible Escapement Height, 16 in., Width, 20 in., Dial, 6 in.	$29 60

Flower Girl

Enameled Iron Clocks.

Height 11 in. Width 11 in. Dial 8 in.

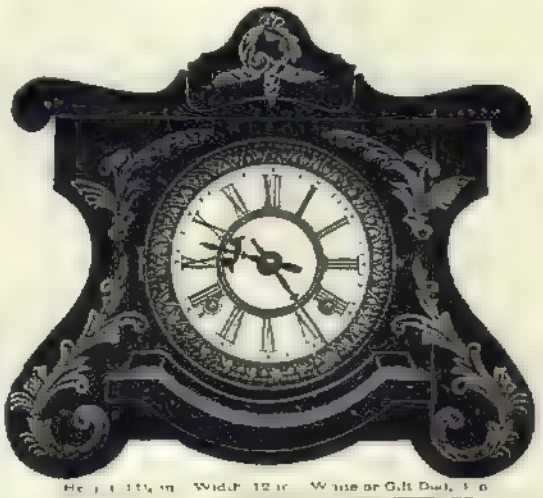
NO.	DESCRIPTION	EACH
29	Miami, 8 Day, ½ Hour Strike, Cathedral Gong, Black	$11 00
30	Miami, 8 Day, ½ Hour Strike, Cathedral Gong, Oak, Mahogany or Malachite	13 75
	Visible Escapement, Extra	50
	Porcelain Dial, Extra	1 50

Height 11 in. Width 10 in. Dial 8 in.

NO.	DESCRIPTION	EACH
35	Aragon, 8 Day, ½ Hour Strike, Cathedral Gong, Black	$12 00
36	Aragon, 8 Day, ½ Hour Strike, Cathedral Gong, Oak, Malachite or Mahogany,	13 75
	Visible Escapement, Extra,	50
	Porcelain Dial, Extra	1 50

Height 10½ in. Width, 12¼ in., White or Gilt Dial, 6 Inch

NO.	DESCRIPTION	EACH
43	Mono, 8 Day, ½ Hour Strike, Cathedral Gong	$11 00
	Visible Escapement, Extra	50
	Porcelain Dial, Extra	1 50



Height 11½ in. Width 12 in. White or Gilt Dial, 5 in.

NO.	DESCRIPTION	EACH
41	New Monaco, 8 Day, ½ Hour Strike, Cathedral Gong	$13 00
	Visible Escapement Extra,	50
	Porcelain Dial Extra	1 50

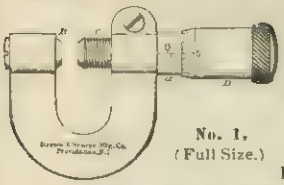
POCKET PUMP & CO. Proprs

QUEEN CITY SUPPLY CO. CINCINNATI, O.

MICROMETER CALIPERS.

English or Metric Measure.

Fig. 573.

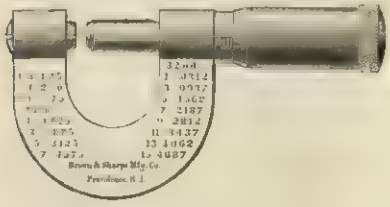


No. 1,
(Full Size.)

These gauges will measure the thickness of sheet metal or other material, by thousandths of an inch up to three-tenths of an inch at any point within half an inch of the edge, and can be applied as easily as the common gauge. They will also answer to measure the diameter of wire. Means of adjustment are provided in case of wear by continued use.

In pasteboard box..... ..... each, $4.00
In Morocco Case .. .. " 4.50

Fig. 574.



No. 2. (Full Size)

This Caliper is shown full size in cut, and measures all sizes less than one-half inch It is graduated to read thousandths of an inch, but one-half and one-quarter thousandths are readily estimated. The gauge screw is encased, and protected from dirt and liability to injury Means of adjustment are provided to compensate for wear The decimal equivalents stamped on frame are very convenient, and render possible the immediate expression of readings, in 8ths, 16ths, 32nds, and 64ths.

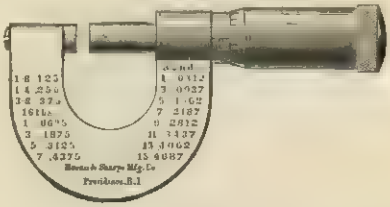
This instrument is also graduated to hundreths of a millimeter, Metric measure When so graduated, the table of decimal equivalent is omitted.

In pasteboard box .. ..each, $4.50
In Morocco case..... .... " 5.00

No. 3. This Caliper differs from No 2, only in being graduated to read to ten thousandths as well as thousandths of an inch.

In pasteboard box . ...each, $5.50
In Morocco case .. .. " 6.00

Fig. 575.



No. 4. (Full Size.)

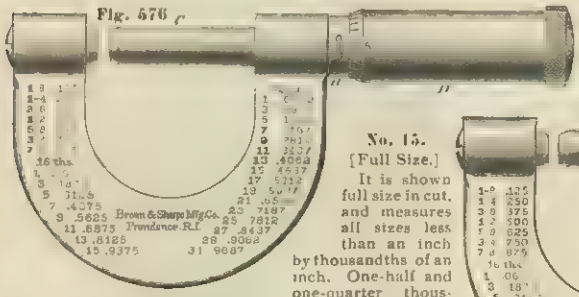
The Caliper is shown full size in cut, and measures all sizes less than one-half inch. It is graduated to read to thousandths of an inch, but one-half and one-quarter thousandths are readily estimated. The outer end of the frame is the same size as the gauge screw spindle, and the edges of the measuring surfaces are not beveled but are left square. It is more convenient for measuring certain classes of work It will gauge under a shoulder, or measure a small projection on a plain surface

In pasteboard box . ... each, $4.50
In Morocco case,..... .... " 5.00

No. 5.—This Caliper differs from No. 4, only in being graduated to read to ten thousandths as well as thousandths of an inch.

In pasteboard box.... ... .each, $5.50
In Morocco case. .. .. " 6.00

Fig. 576.



No. 15.
[Full Size.]

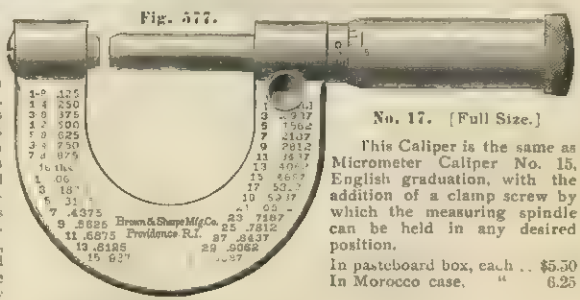
It is shown full size in cut, and measures all sizes less than an inch by thousandths of an inch. One-half and one-quarter thousandths are readily estimated The decimal equivalents stamped on frames are very convenient, and render possible the immediate expression of readings, in 8ths, 16ths, 32ds, and 64ths. This Caliper is also graduated to read to hundredths of a millimeter. When so graduated, the table of decimal equivalents is omitted. The gauge screw is encased, and protected from dirt and liability to injury. Means of adjustment are provided to compensate for wear.

In pasteboard box ....each, $5.00
In Morocco case ..... " 5.75

No. 16.—This Caliper differs from No. 15, only in being graduated to read to ten thousandths as well as thousandths of an inch.

In pasteboard box .. .. each, $6.00
In Morocco case..... .... .. " 6.75

Fig. 577.



No. 17. [Full Size.]

This Caliper is the same as Micrometer Caliper No. 15, English graduation, with the addition of a clamp screw by which the measuring spindle can be held in any desired position.

In pasteboard box, each .. $5.50
In Morocco case. " 6.25

No. 18.—This Caliper differs from No 17, only in being graduated to read to ten thousandths of an inch.

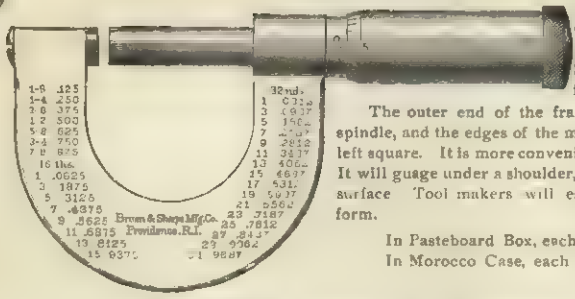
In pasteboard box each, $6 50
In Morocco case " 7.25

QUEEN CITY SUPPLY CO. CINCINNATI, O.

MICROMETER CALIPERS.

PATENTED Patents Pending

Fig. 578. English, or Metric Measure.

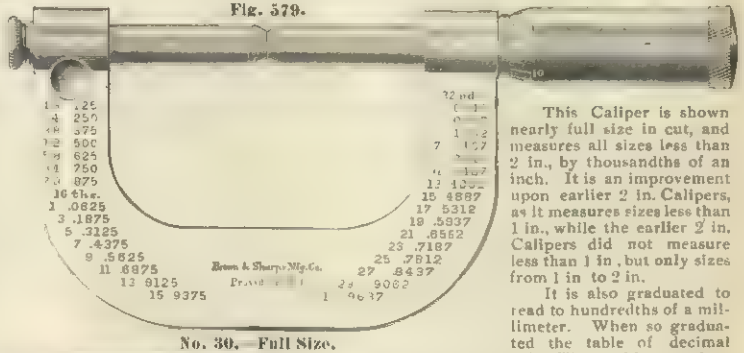


This Caliper is shown full size in cut and measures all sizes less than an inch by thousandths of an inch. One-half and one-quarter thousandths are readily estimated.

The outer end of the frame is the same size as the gauge screw spindle, and the edges of the measuring surfaces are not beveled but are left square. It is more convenient for measuring certain classes of work. It will gauge under a shoulder, or measure a small projection on a plain surface. Tool makers will especially appreciate Micrometers of this form.

In Pasteboard Box, each..... .. . $5.00
In Morocco Case, each 5.75

Fig. 579.



No. 19.—Full Size.

No. 20.—This Caliper differs from Micrometer Caliper No. 19, only in being graduated to read to ten-thousandths, as well as thousandths of an inch.

In Pasteboard Box, each... $6.00
In Morocco Case, each..... 6.75

No. 21.—This Caliper is the same as Micrometer Caliper No. 20, with the addition of a Clamp Screw, by which the measuring spindle can be held in any desired position.

In Pasteboard Box, each... $6.50
In Morocco Case, each 7.25

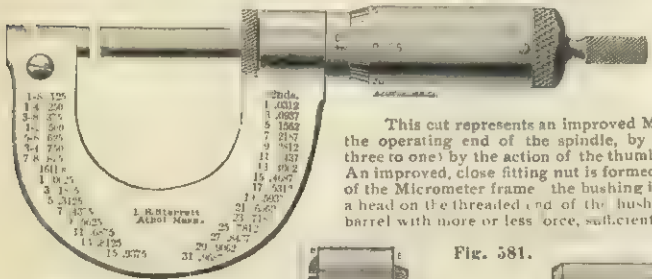
No. 30.—Full Size.

This Caliper is shown nearly full size in cut, and measures all sizes less than 2 in., by thousandths of an inch. It is an improvement upon earlier 2 in. Calipers, as it measures sizes less than 1 in., while the earlier 2 in. Calipers did not measure less than 1 in., but only sizes from 1 in. to 2 in.

It is also graduated to read to hundredths of a millimeter. When so graduated the table of decimal equivalents is omitted. The working portions are protected, and means of adjustment are provided to compensate for wear. A Standard Gauge, to be used in adjusting the Caliper, is furnished with each instrument.

In Pasteboard Box, each $8.00
In Morocco Case, each..... .... 9.00

Fig. 580.

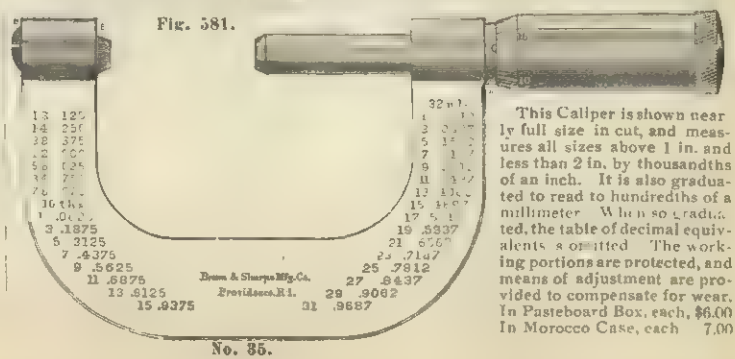


Speeded Screw—Full Size.

This cut represents an improved Micrometer with a small knurled thumb piece on the operating end of the spindle, by means of which its rotation is speeded (about three to one) by the action of the thumb and finger between which it is made to rotate. An improved, close fitting nut is formed by a threaded bushing screwed into the barrel of the Micrometer frame; the bushing is split through each end in three equal sections, a head on the threaded end of the bushing is screwed up against the outer end of the barrel with more or less force, sufficient to cause the action of the V shaped threads to contract the nut to fit the screw. A locking device to hold the spindle central, rigid and firm is provided by means of a knurled thimble nut, screwed into the inner end of the barrel, telescoping the tapering end of the split bushing. A slight turn of the nut contracts the bushing around the spindle to a close fit or to lock firmly, thus making a solid gauge when desired.

In Pasteboard Box, each.. $8.00
In Morocco Case, each.. .. 9.50

Fig. 581.



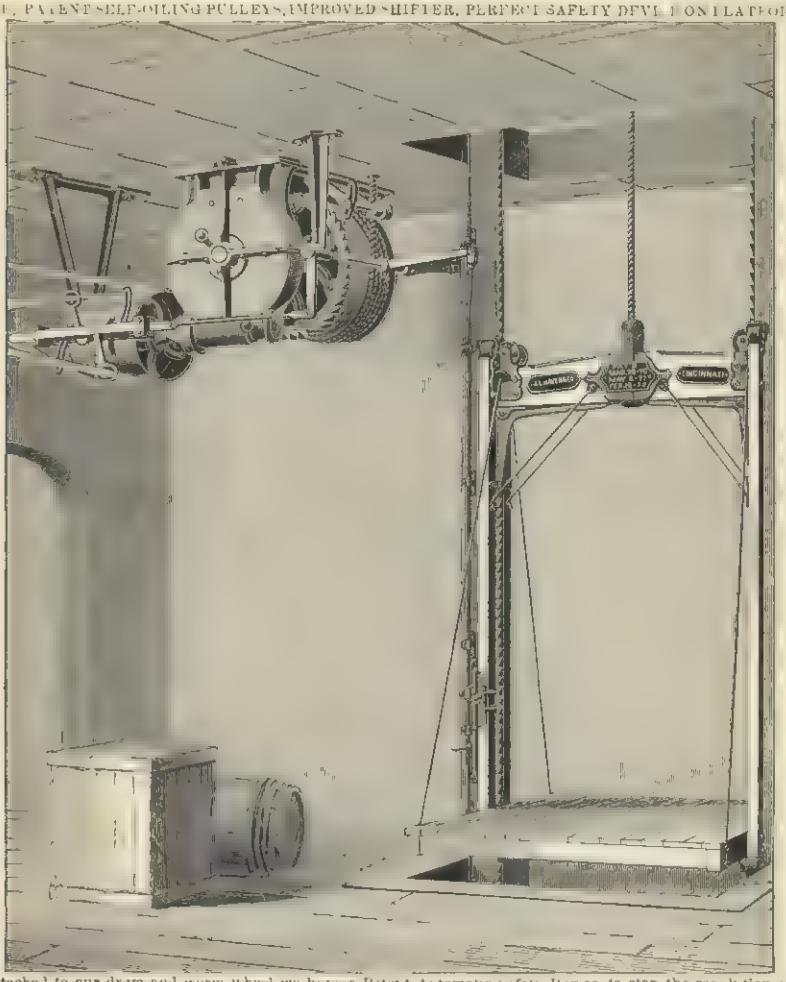
No. 35.

This Caliper is shown nearly full size in cut, and measures all sizes above 1 in. and less than 2 in. by thousandths of an inch. It is also graduated to read to hundredths of a millimeter. When so graduated, the table of decimal equivalents is omitted. The working portions are protected, and means of adjustment are provided to compensate for wear.

In Pasteboard Box, each, $6.00
In Morocco Case, each 7.00

PATENT SAFETY POWER ELEVATORS.

SOLID IRON FRAME, ENCASED GEARING, PATENT SAFETY DEVICE TO PREVENT UNWINDING OF THE ROPE, PATENT SELF-OILING PULLEYS, IMPROVED SHIFTER, PERFECT SAFETY DEVICE ON PLATFORM.



Attached to our drum and worm wheel we have a Patent Automatic Safety Device, to stop the revolution of the drum and keep the rope from unwinding in case the platform is fouled in its descent.

This is the most important feature of safety on a steam hoist, more than *three fourths* of the accidents arising from this cause. When the platform is obstructed it invariably parts—an accident which may happen at any time by something getting in the hatch; the rope continues unwinding, is wound around the shaft and is strained or broken. Our device absolutely prevents this. It is positive in its action, entirely automatic, depends on no springs, and has *never failed to do its work*.

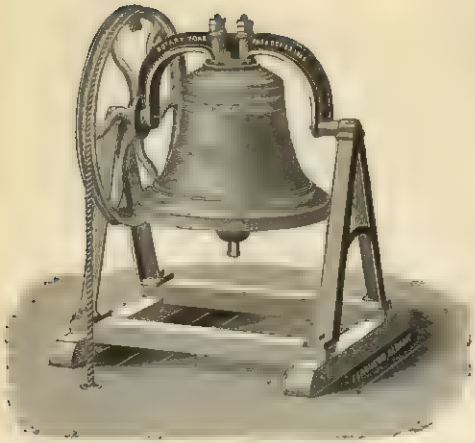
Our Improved Belt Shifter and Brake is the most accurate working and most easily adjusted style in use. It is all iron, single-acting, with steel brake bar and the brass block adjusted by a steel point and set screw, so that a few minutes work adjusts the block as it wears.

The Shifter in the hatch is gas pipe, with lever connections to rock shaft and brake bar, making it absolutely safe; with automatic stops at top and bottom floors, and movable fingers at intermediate floors, so that the platform is stopped accurately at each floor.

The platform is made of all ash and iron, in a strong and durable manner, with anti-friction rollers working against sides and faces of uprights, at top and bottom of stiles.

The Safety Device, to prevent falling in case the rope breaks, is of the most approved pattern, consisting of heavy iron rack in the uprights, rock pawls, and strong elbow connections on the platform, operated by a powerful spring, making the most reliable safety device used.

PURE BELL METAL BELLS.



Made of genuine copper and tin alloy, according to established formula for the highest grade of bell metal. Our bells possess a clear, musical tone corresponding to the scale indicated in table below, and are celebrated for their great volume of melodious sound. They are sold by weight, and the hangings are charged extra, as per list following, not being weighed with the bell.

Our Hangings consist of our IMPROVED PATENT ROTARY YOKE, FRAME, WHEEL AND TOLLING HAMMER.

The weights and diameters given are those designating the pattern; the actual weights may vary from three to five per cent.

Weight of Bell Pounds	Diameter Inches	Tone	Size of Wood Frame Outside Inches	Price of Hangings	Weight of Bell Pounds	Diameter Inches	Tone	Size of Wood Frame Outside Inches	Price of Hangings
100	17	G	24 x 24	$15 00	600	32	B Fl	43 x 43	$35 00
125	19	F Sh	27 x 27	15 00	700	34	A	45 x 45	40 00
150	20	F	27 x 27	11 00	800	35	G Sh.	47 x 47	40 00
175	21	F	29 x 29	20 00	900	37	G	48 x 48	45 00
200	22	E	29 x 29	20 00	1,000	38	G	49 x 49	45 00
225	23	E Fl	32 x 32	20 00	1,200	40	G	52 x 52	50 00
250	24	D	32 x 32	22 50	1,300	41	F Sh	52 x 52	50 00
300	26	C	33 x 33	24 00	1,400	42	F	57 x 57	60 00
350	27	C	33 x 33	26 00	1,500	43	F	57 x 57	60 00
400	28	C	38 x 38	28 00	1,600	44	F	57 x 57	65 00
450	29	C	38 x 38	30 00	1,800	46	E	59 x 59	75 00
500	30	B	40 x 40	32 00	2,000	47	E	59 x 59	85 00
550	31	B	40 x 40	32 00					

STEEL AMALGAM BELLS.

Fig. 353.

Our Steel Amalgam Bells are distinguished for their great volume of sound. They are adapted to farm and factory use, and in the larger sizes, mounted as shown in Fig. 353, are suitable to church and school-house use, or for fire alarms where cheapness is a prime consideration. We furnish tolling attachment with Nos. 6, 7 and 8 of Fig. 353.

Fig. 758.

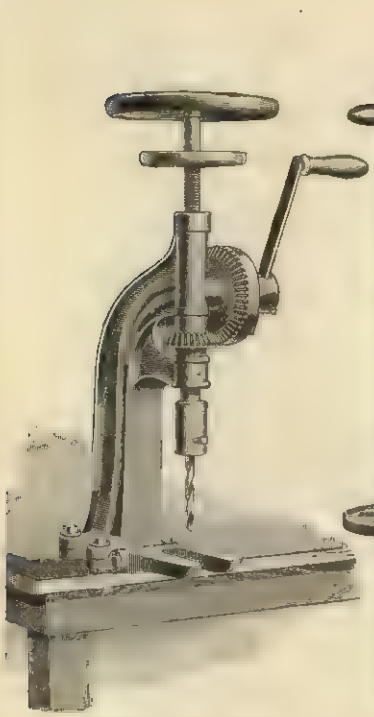
Number.	3	4	5	6	7	8
Diameter, inches.	18½	21	24	28	30	33
Weight, Bell only...	65	80	134	247	325	414
Weight, complete	172	186	240	386	487	689
Size of Frame	27 x 41½	30 x 41½	36 x 13½	46 x 48	46 x 48	58 x 48
Price	$15 00	20 00	25 00	40 00	50 00	75 00

Tolling Attachment, Nos. 6 and 7, $4.00; Nos. 8 and 5, extra.

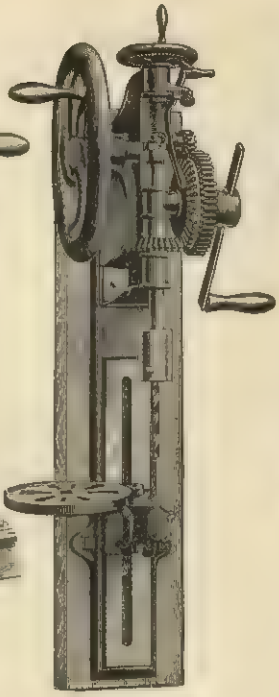
Number	A1	A2	A3	A4
Diameter, inches	15	17	19	21
Weight	40	60	75	100
Price.	$4 00	5 00	7 50	10 00

We carry in stock repairs, and can furnish at proportionate prices parts of Fig. 353 or Fig. 758.

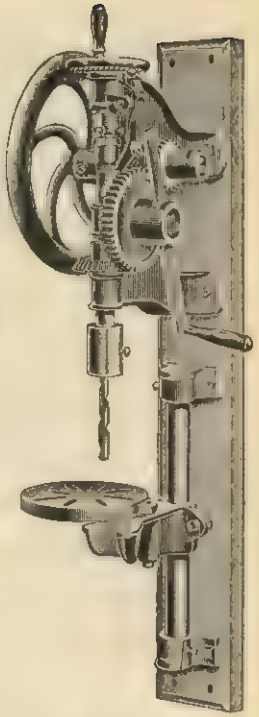
BUFFALO BLACKSMITHS' DRILLS.



Hand-Feed Bench Drill, No. 69.



New Post Drill, Nos. 66 and 67.



Post Drill with Automatic Feed, No. 68.

No. 69. Height, 28 inches; weight, 55 lbs. Drills from ⅛ to 1 inch hole, and to center of 9 inch circle. The feed has a run of 3½ inches. All shafts and screws are best steel. Chuck is made for ½-inch drill shank.

Price.....$15 00

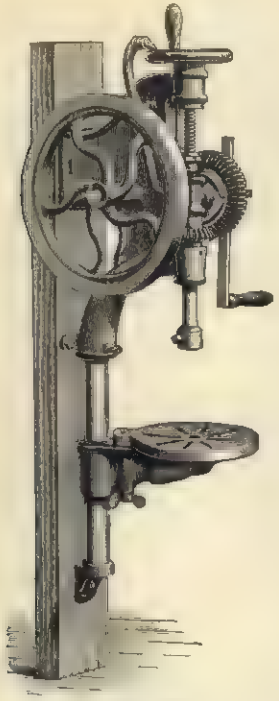
Our new drills, **Nos. 66** and **67,** have automatic feed with a run of 3¼ inches, adjustable for three feeds. There are two rates of speed The distance from lowest point of table to spindle is 16½ inches; table 8 inches in diameter. As shown by cut, a hand wheel is provided for the quick return of spindle. Every machine is furnished with a wrench, and the chuck is made for ½ inch drill shank. Weight, 100 lbs.; length 37 inches; drills holes up to one inch, and to center of 15-inch circle.

Price.. { No. 66 Drill, as shown in cut.....$22 00
{ No. 67 Drill (for power, with tight and loose pulleys)..... 28 00

Buffalo "68" Drill.—Weight, 97 lbs.; length, 44 inches; drilling capacity, 1-inch diameter, and to center of 18½-inch circle; automatic feed; run, 3¼ inches; adjustable for three feeds, with two speeds. Table, 7¼-inch diameter, and distance from lowest point to the spindle is 14 inches. Provided with hand wheel arranged with chuck for ½-inch drill shank.

Price.. { No. 68.....$22 00
{ No. 68½, same drill for power, tight and loose pulleys..... 28 00

"ADVANCE" DRILLING MACHINES.

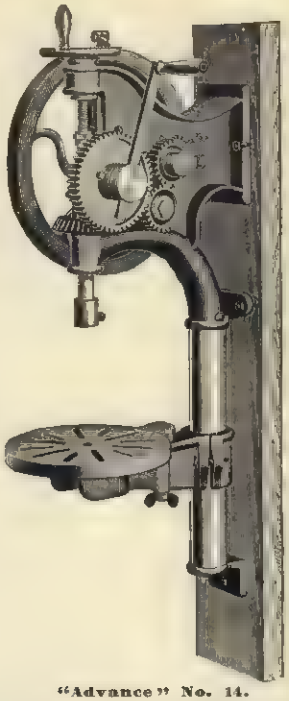


"Advance" No. 13.

Our new No. 13 "Advance" is double back geared as shown in the illustration.

The crank can be changed from main gear to fly wheel shaft in an instant for drilling large holes.

Size of spindle, 1½ inches; run of spindle, 3 inches; size of column, 2 inches; greatest distance of spindle to table, 16½ inches; spindle turns 1½ times to one turn of crank on fast speed; crank turns 1½ times to one turn of spindle on slow speed; drills to center of 18-inch circle and up to 1½-inch holes; spindle bored for ½-inch shank drills unless otherwise ordered. Weight, 175 pounds. Price, $16 00. Tight and loose pulleys for power instead of fly wheel, extra $3.00. Chucks for holding square shank or bit stock drills, extra $1.00.

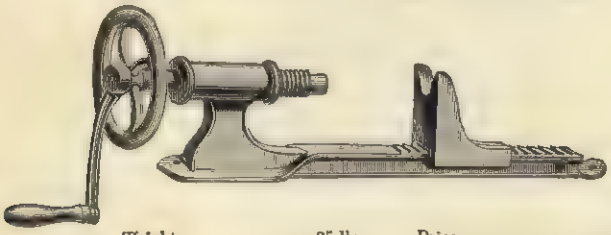


"Advance" No. 14.

The No. 14 "Advance" Drill is similar in all respects to our No. 13, but much larger and heavier, making it suitable for all requirements, and when provided with pulleys as listed below, it is a very efficient power drill.

Size of spindle, 1½ inches; run of spindle, 3 inches; size of column, 2¾ inches; greatest distance of spindle to table, 18½ inches; spindle turns 1½ times to one turn of crank on fast speed; crank turns 1½ times to one turn of spindle on slow speed; drills to center of 22-inch circle and up to 1½-inch holes; spindle bored for ½-inch shank drills unless otherwise ordered. Weight, 240 pounds. Price, $25.00. Tight and loose pulleys for power instead of fly wheel, extra $3.00. Chuck to take square shank or bit stock drills, extra $1.00.

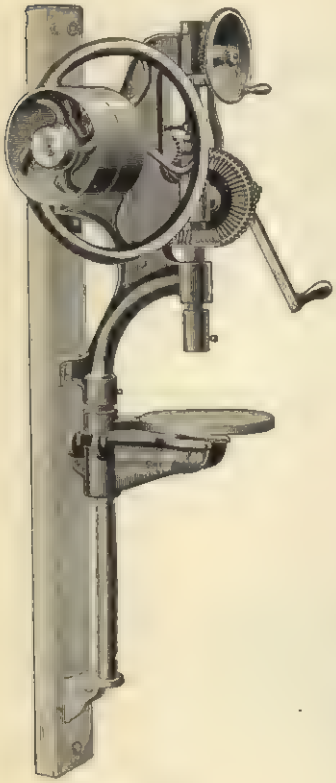
BLACKSMITHS' COMMON TIRE DRILL.



Weight.....25 lbs. Price.....$2.00.

BUFFALO BLACKSMITH DRILLS.

Triple Gear—Automatic Feed.

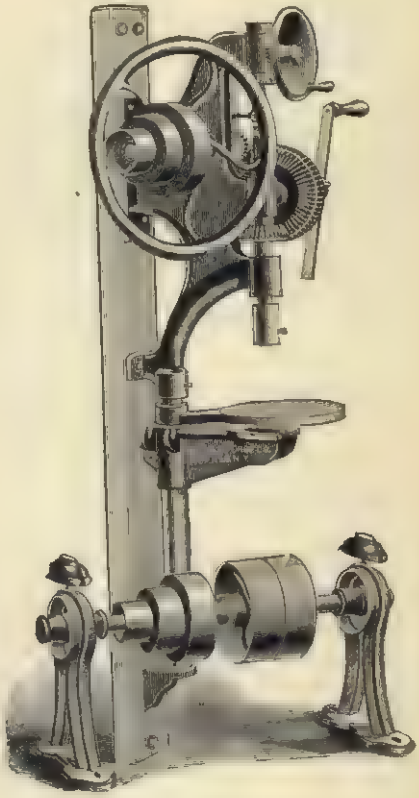


No. 79.

Length, 54 inches; weight, 175 pounds. Drills from ¼ to 1¼ inch hole, and to center of 15 inch circle. Spindle has a run of 5 inches and 4 rates of speed.

Tight and loose pulleys, 8 inches diameter; 3 inch face. Should run 200 revolutions per minute.

Triple Gear—Automatic Feed.



No. 81.

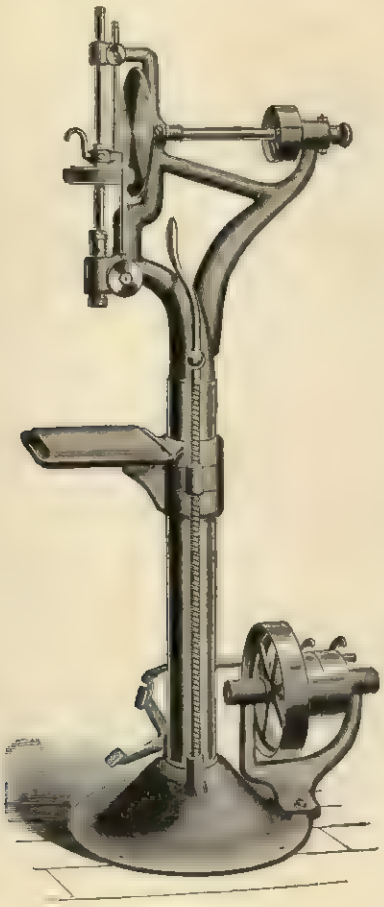
Length, 54 inches; weight, 200 pounds Drills from ¼ to 1¼ inch hole, and to center of 15 inch circle.

Countershaft cone has three changes, largest 7 inch and smallest 3 inch diameter, 2¼ inch face. Driving pulley, 8 inch diameter and 3¼ inch face.

No. 75.	Hand and Power Machine, price	$52 00
No. 77.	Hand and Power Machine, with Countershaft, price	66 00
No. 79.	Hand and Power Machine, price	52 00
No. 81.	Hand and Power Machine, with Countershaft, price	65 00

Add $2.00 to list if Emery Grinder is wanted.

BARNES' NEW FRICTION DISC DRILL.

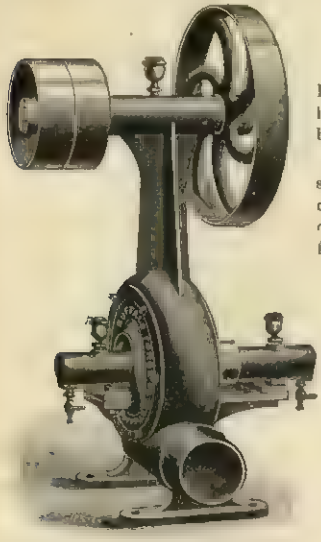


This new form of sensitive drill embodies principles not found in other tools of its class. It is simpler in construction, and more effective in operation than any other in the market. The speed of the drill spindle can be regulated, or the motion reversed, without stopping the machine or shifting belts. The smallest drills can be used without danger of breaking. The workmanship throughout is first-class, all wearing surfaces are especially fitted for durability, and provision is made for taking up wear. It is smooth and noiseless in operation, and free from the vibratory motion commonly found in drills of this class where the spindle is driven by belt. It will drill from 0 to $\frac{5}{16}$ inches, and to center of 10-inch circle. Greatest height from base of drill to spindle, 46 inches. Greatest height from platen to spindle, 36 inches. Distance from column to spindle, 5 inches. Diameter of column, $3\frac{1}{2}$ inches. Diameter of spindle, $\frac{3}{4}$ inch. Size of table, 10 x 14 inches. Vertical motion of spindle, $3\frac{1}{2}$ inches. Tight and loose pulleys, 5 x 2 inches. Speed, 0 to 1,600 revolutions. Weight, 170 lbs. **Price, boxed for shipment, $55.**

PORTABLE STEEL BLOWER WITH SELF-CONTAINED COUNTERSHAFT.

This is a very compact and convenient form of Portable Pressure Blower for limited use. It is made in one size only, corresponding to No. 1 in the regular list of Pressure Blowers, page 75.

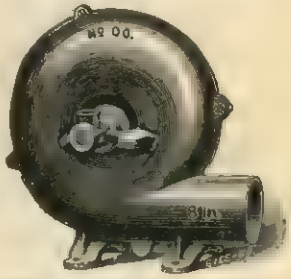
Price $20 00



BUFFALO CAST IRON BLOWER.

This blower is made on the same principle as our Steel Pressure Blower, but not so highly finished, nor as durable. They work noiselessly, and will yield as large a volume of air in proportion to the sizes but not with the same amount of pressure.

They are especially intended for blowing fires in portable and small stationary boilers, experimenting and various purposes where a small current of air is desired. Also, for forge fires; No. 00 giving blast for one fire; No. 0 will blow two fires, and No. ½ will furnish sufficient blast for four fires.



Number.	Height.	Weight, Pounds.	Outlet.	Pulley.	PRICE.
00	8″	20	2¼	1½ x 1½	$ 8 00
0	12″	30	3	1½ x 1½	10 00
½	18″	45	4½	1¾ x 2	14 00

Arranged as exhausters, $2.00 extra.

BUFFALO BLAST GATES.

2 inch Diameter	$1 00	10 inch Diameter.....	$ 5 00
2½ inch Diameter.....	1 25	12 inch Diameter.....	6 50
3 inch Diameter	1 50	14 inch Diameter	8 00
4 inch Diameter	2 00	16 inch Diameter.....	12 00
5 inch Diameter.....	2 25	18 inch Diameter.....	16 00
6 inch Diameter.....	2 50	20 inch Diameter	18 00
8 inch Diameter.....	3 50	24 inch Diameter	21 00

These are outside measurements.

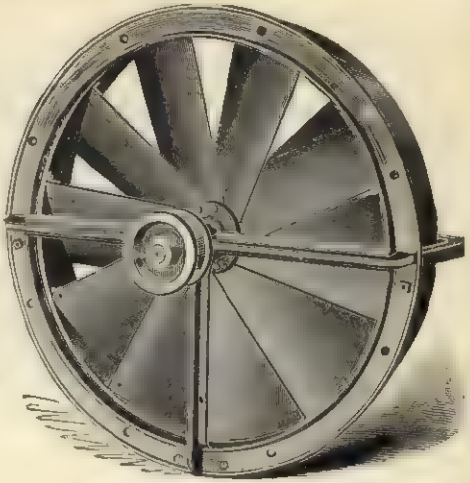
For Cupolas—It is very important that a Blast Gate should be provided in the main pipe leading to the cupola, in order to regulate and control the blast; also, to guard against gas explosions, which often occur from the accumulation of gas during a temporary stoppage of the blower. The gate should be closed before stopping the blower, and not opened until after it is again started up.

Forges—A gate should be provided at each forge, not only as a safeguard, but for regulating the blast.

Exhausters—A gate should be provided at each machine, so that, when not in use, they can be closed, thus increasing the draft in all other pipes.

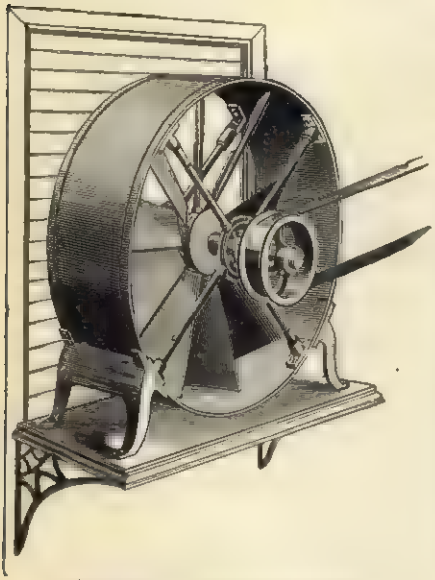
BUFFALO DISC WHEEL VENTILATING FAN.

The mechanical construction of this Fan is such as to ensure the greatest possible efficiency with the least expenditure of power. They are made in ten sizes, from 18 in. to 7 ft. diameter, with capacity of from 100 ft. to 100,000 cubic feet of air per minute. The annexed cut shows style adapted to fitting in walls, transoms, ceilings, etc. The illustration at bottom of page shows style adapted to use where there is an independent support. The principle of air propulsion is the same in both, and is identical with that of the screw propeller in water. Its capacity is only measured by its speed.



(Without Legs.—For Wall or Ceiling.)

Diam. of Wheel, inches,	18	24	30	36	42	48	54	60	72	84
Diam. of Pulley, inches,	4	4	6	7	8	9	9	10	12	14
Face of Pulley, inches,	2	2	2	3	3½	4	4	5	5½	6
Price,	$40 00	50 00	65 00	85 00	110 00	125 00	175 00	250 00	300 00	350 00



(With Legs, for Independent Support.)

CUBIC FEET OF AIR MOVED PER MINUTE AT FOLLOWING SPEEDS.

Rev's	24 Inch.	30 Inch.	36 Inch.	42 Inch.	48 Inch.	54 Inch.	60 Inch.	72 Inch.
100	..	..	.		4,245	5,068	8,387	14,937
120	.	.			5,100	7,278	10,137	18,090
140	.	.	.		5,965	8,522	11,919	21,300
160	.	.	.	...	6,851	9,799	13,733	24 566
180	.			5,038	7,748	11,008	15,579	27 890
200	.		3,594	5,607	8,686	12,410	17,457	31,266
220		2,341	3,956	6,188	9,635	13,764	19,367	34,700
240		2,575	4 347	6,779	10,605	15,136	21,309	38,160
260	1,444	2,816	4 758	7,383	11,596	16,534	23,283	41,736
280	1,561	3 074	5,179	7,996	12 609	17,958	25,280	45,338
300	1,684	3,338	5,650	8,631	13,641	19,408	27,327	48,996
320	1,812	3,612	6,071	9,358	14,695	20,884	29,397	52,710
340	1,945	3,896	6 402	9,905	15,770	22,386	31,499	56,480
360	2,083	4,190	6,843	10,564	16,865	23,914	33,633	60,306
380	2,227	4,494	7,294	11,234	17,982	25,468	35,799	64,188
400	2,375	4,808	7,855	11,915	19,118	27,048	37,997	67,985
420	2 529	5,132	8,221	12,608	20,278	28,654	40,227	61,850
440	2,688	5,466	8,706	13,311	21,457	30,286	42,489	75,183
460	2,853	5,809	9,196	14,026	22,658	31,944	44,783	78,564
480	3,023	6 158	9,698	14,752	23,884	33,628	47,109	81,853
500	3,167	6,516	10,210	15,489	25,127	35,336	49,467	.
520	3,376	6,882	10,632	16,238	26,390	37,074	51,795	.
540	3,561	7 256	11,162	16 997	27,575	38,846	54,051	.
560	3,752	7,638	11,702	17,768	28,980	40,624	56,235	.
580	3,947	8,028	12,254	18 550	30,283	42,438	58,347	.
600	4,148	8,426	12,816	19,345	31,518	44,277	60,401	..
620	4,354	8 832	13,388	20,148	32,685	46,144	.....	.
640	4,565	9,246	13,970	20,963	33 884	48,036	.	.
660	4 779	9,668	14,562	21,790	34,836	49,954		.
680	4,998	10,098	15 804	22,631	35,588	52,896		
700	5,221	10,536	15,776	23,420	36,940	53,85[illegible]		

HARDWARE FACTORY SUPPLIES DEALER

S. D. KIMBARK

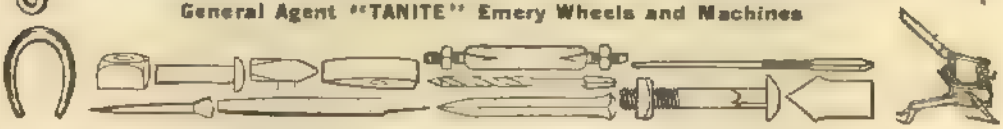
MICHIGAN AVENUE AND LAKE STREET ≑ CHICAGO

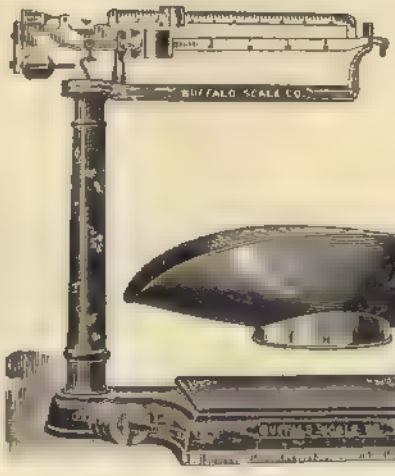
IRON, STEEL, NAILS

CARRIAGE, WAGON AND HEAVY HARDWARE,
CARRIAGE TRIMMINGS
BLACKSMITHS' TOOLS AND MACHINES

FINE WOOD MATERIAL

General Agent "TANITE" Emery Wheels and Machines





BUFFALO STANDARD SCALES

All Styles
All Sizes

Adopted by U. S. Government

We make a specialty of selling our product through the Hardware Dealers. : :

Write for illustrated price list

BUFFALO SCALE CO.

BUFFALO, N. Y.

Ajax Solid Steel Hatchets.

Ajax Broad Hatchet.

Ajax Claw Hatchet.

Ajax Broad Hatchets, Bronzed, Polished Bit and Poll.

No.	2	3	4
Width of Cut,	4½	5	5½ inch
Per Dozen,	$11 50	13 00	14 50

Ajax Claw Hatchets, Bronzed Polished Bit and Poll.

No,	1	2	3
Width of Cut,	3½	3¾	4¼ inch.
Per Dozen,	$8 00	9 50	10 00

HALF DOZEN IN A BOX.

Our Very Best Solid Steel Hatchets.

Handsomely Copper Plated.

Shingling. Lath. Hall

Our Very Best Adze Eye, Bell Poll, Shingling.

NO.	DESCRIPTION.	PER DOZEN
10	Adze Eye, Bell Poll, Shingling, width of Bit, 3½ inch, Weight, 1 lb., 4 oz.,	$21 00

HALF DOZEN IN A BOX.

Our Very Best Adze Eye, Bell Poll, Half.

NO.	DESCRIPTION.	PER DOZEN.
20	Adze Eye, Bell Poll, Half, width of Bit, 3⅜ inch, Weight, 1 lb., 2 oz.,	$21 00

HALF DOZEN IN A BOX.

Our Very Best Adze Eye, Bell Poll, Lath

NO.	DESCRIPTION.	PER DOZEN.
30	Adze Eye, Bell Poll, Lath, width of Bit, 2½ inch, Weight, 1 lb.,	$21 00

HALF DOZEN IN A BOX.

Yerkes & Plumb's Adze Eye Bell Poll Hatchets.

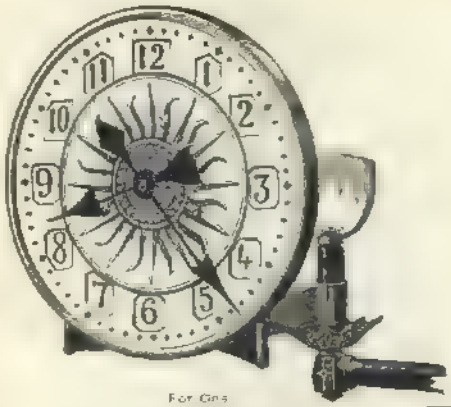
Shingling, Lath and Half. Full Polished.

NO.	DESCRIPTION.	PER DOZEN
110	Adze Eye, Bell Poll, Shingling, width of Bit, 3½ inch, Weight, 1 lb., 4 oz.,	$15 00
120	Adze Eye, Bell Poll, Half, width of Bit, 3⅜ inch, Weight, 1 lb., 2 oz.,	15 00
130	Adze Eye, Bell Poll, Lath, width of Bit, 2½ inch, Weight, 1 lb.,	15 00

HALF DOZEN IN A BOX.

ABOVE WEIGHTS DO NOT INCLUDE HANDLES.

Night Clocks.



For Gas.

NO.	DESCRIPTION	EACH.
98	Night Clock, 1 Day, Time, Translu- [illegible] Dial 4½ in.	$4 00

For Lamp.

NO.	DESCRIPTION	EACH
97	Night Clock, 1 Day, Time, Complete with Lamp, Transparent Porcelain Dial, 4½ in.	$4 60

Nickel Clocks.

Height 7½ inch. [illegible]

NO.	DESCRIPTION	EACH
103	Pilgrim, Nickel Frame, Glass Sides and Back, 1 Day, Strike.	$4 80
104	Pilgrim, Nickel Frame, Glass Sides and Back, 1 Day, Time, Alarm.	4 20
105	Pilgrim, Nickel Frame, Glass Sides and Back, 1 Day, Strike, Alarm.	5 10

Height 7½ inch. [illegible]

NO.	DESCRIPTION	EACH
101	Messenger, Nickel Frame, Glass Sides, 1 Day, Strike.	$4 80
102	Messenger, Nickel Frame, Glass Sides, 1 Day, Time, Alarm.	4 00

Porcelain Clocks.

Height, 8¼ inch. Width, 7 inch with Ribbon

NO.	DESCRIPTION	EACH
81	Delta, Decorated Porcelain, 1 Day Time,	$6 00

Height, 8¼ inch. Width, 7 inch

NO.	DESCRIPTION	EACH
77	Windsor, Decorated Porcelain, 1 Day Time, 4 inch Fancy Silver 3 inch Dial	$7 00

Height, 14¾ inch. Width, 8¼ inch, 3 inch Dial

NO.	DESCRIPTION	EACH
82	Pompadour, Decorated Porcelain, 8 Day, 4 Hour Strike	$20 00

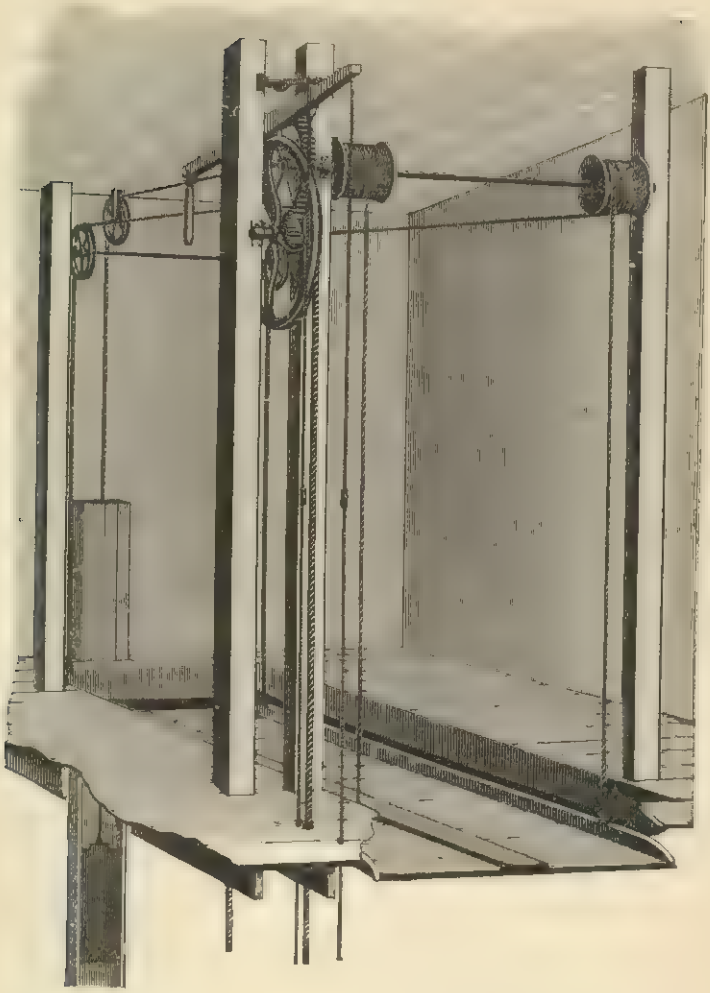
Height, 7 inch. Width, 5 inch. Dial

NO.	DESCRIPTION	EACH.
84	St Louis, Decorated Porcelain, 1 Day Time,	$6 00

Height, 7½ inch. Width, 5 inch. Dial.

NO.	DESCRIPTION.	EACH
83	St. Cloud, Decorated Porcelain, 1 Day Time.	$6 00

CARRIAGE AND WAGON HOIST.

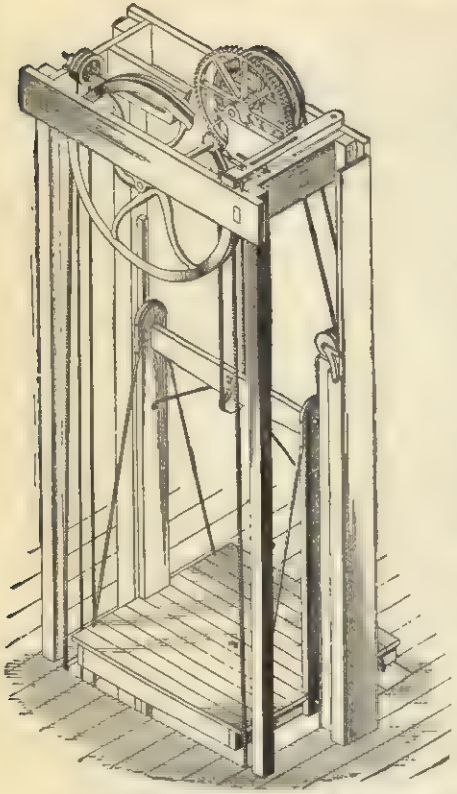


For Carriage Shops and Livery Stables.

This is a strongly built and powerful machine. It has a pinion gear operated by a hand rope, the platform counterbalanced, and hung by four wire cables on two cast iron drums and two iron sheaves. The machinery is supported by five 6x6 inch posts on the upper floor of building, leaving the lower floor clear. The platform is made any size wanted, usually 7 feet wide by 14 to 16 feet long. The counterweight may be run down any convenient wall, at a distance if necessary.

In ordering or writing for price, send a diagram of floor, showing location of hatch in reference to walls, mark where weight is to run down, and give its distance from hatch; also mark where hand ropes are wanted, and give the height of each story from floor to floor, the upper floor from floor to ceiling, and size of hatch in clear.

NO. 2 PLATFORM ELEVATOR.



This is the best hand elevator in the market for light loads. It is easy running, has a lifting capacity of 500 to 1,000 pounds, and is intended for a hatch about four feet wide, postways.

Details of Construction.

The platform is made of ash, strong, substantial, well braced, and hung from the center of the cross-head by two wire cables, both attached to the counterweight. This method of suspension keeps the platform in balance, and causes no friction, no matter in what position the load is placed.

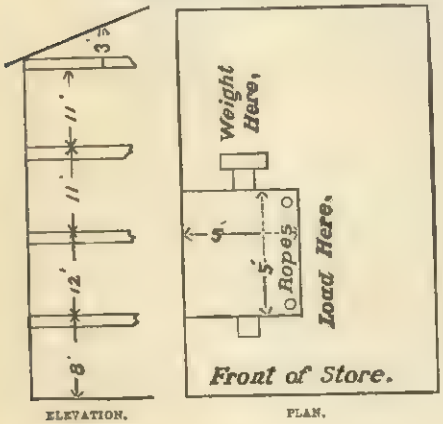
The platform is counterbalanced to run up of itself, empty.

The hand rope is in the hatchway, so as to be operated from the platform as well as from the floor.

The gearing has turned shafts, is heavy and durable, and is bolted to a strong frame which makes an even and steady support, preventing all chance of parts getting out of line, and making erection at the building an easy and simple operation.

The brake is operated by a screw, positive in its action, holding the platform at any desired point.

MEASUREMENTS AND SPECIFICATIONS WANTED FOR HOISTS.



ELEVATION. PLAN.

In sending orders for any of our Elevators, it will save time and correspondence if purchaser will give the following particulars:

The height of each story from floor to top of floor above, and of top story from floor to ceiling. If latter is less than 11 feet, give distance from ceiling to roof.

A sketch of one floor, showing position and size of hatch and the front of loading side.

We want the size of hatch in the clear, not size of platform. We make the platform slightly shorter in length and less in width than size of hatch

Send us figured sketch of section and of ground plan of building, like those opposite, showing location of hatch in reference to walls, stairs, etc., and position of guide posts, ropes and weight box. We fit all the gearing, so that it cannot be set up wrong, and furnish the platform, ropes and counterweight—the entire machine, with the exception of the uprights or guide posts, and counter weight box. These are made of straight pine posts and boards We can send printed specifications of upright and weight box lumber, and full directions for setting up, so that any good carpenter can do the work.

CHALLENGE WELL BORING MACHINE.

EARTH BORING BY HORSE POWER.

With these Augers wells from 8 to 20 inches diameter can be bored through any kind of earth, sand, or any material less compact than rock. It is guaranteed to bore at the rate of 40 feet in common earth in half a day. Our augers possess advantages in operation not claimed by others, and are the strongest as well as the easiest working earth implements made.

SEND FOR DESCRIPTIVE CATALOGUE.

The full outfit for boring earth 60 feet in depth consists of 1 Challenge Auger, with Reamer; 60 feet of 1¼ shafting, with self-couplers fitted on; 1 sand-pump; 1 swivel hook for large rope; 1 wheel and pinion to run auger rope over; 2 pairs iron double boxes for derrick gearing; 1 spur wheel and pinion; 2 windlass axles; 2 cranks; 1 windlass drum; 1 brake; 2 boring levers for hand power, and one for horse power; 45 feet inch rope for auger; 80 feet ¾-inch rope for guys; 75 feet ¾-inch rope for sand pump; 8 bolts; 1 pulley wheel; 1-inch bolt, 12 inches long. Wooodwork for derrick is not included.

PRICES OF COMPLETE OUTFITS, WITH:

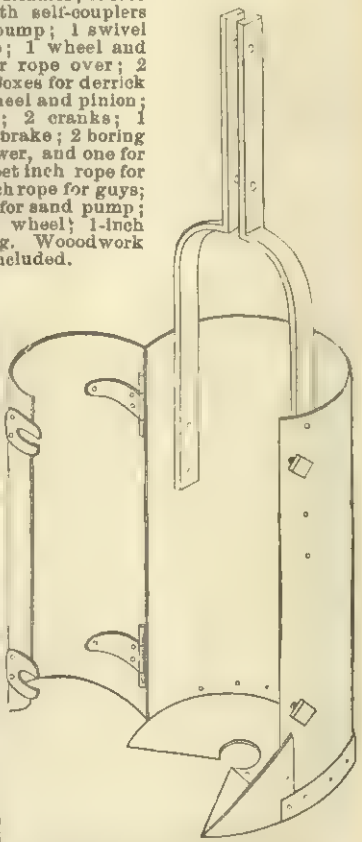
8 or 9-inch Auger,	1¼-inch	shafting	$120 00
11 or 12-inch "	1¼-inch	"	125 00
15-inch "	1¼-inch	"	130 00
18-inch "	1½-inch	"	140 00
20-inch "	1½-inch	"	145 00

If a greater depth than 60 feet is required to be bored in earth, it is only necessary to get extra shafting and couplings.

PRICES OF EXTRAS AND TOOLS.

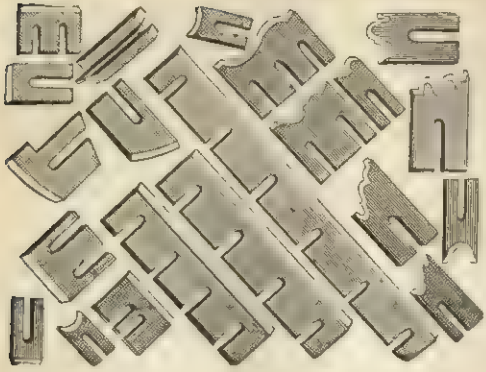
Augers, 6 in. $18 00; 8-in. $25; 12-in. $30 00; 15-in. $35 00; 18-in. $40 00, 20-in. $45 00.

Shafting, 1¼-in. square, per foot	$0 50
" 1¼-in. tubular	60
Patent Self-couplings, each	2 00
Boring Levers, each	3 00
Heavy Lever, for horse-power	6 00
Sand-pumps, each	6 50
Tube Lifter, each	9 00
Wood-work of well auger derrick	13 00
Reamer, 9 to 15-inch auger, each	3 00
Reamer, 18 to 20-inch auger, each	3 50
Well Auger Derrick Gear—shafts, boxes, spur wheels, etc.	28 00
Swivel Hook	2 50
Spur Wheel	4 50
Pinion	50
Shive	1 75
Double Boxes, pair	60



CHALLENGE PATENT AUGER.

PLANER AND MOULDING KNIVES.



Planer knives at 12 cents per inch.
Moulding knives at 40 cents per inch.

O. G. door copes, top or bottom	$2 00
Blank or bevel copes	2 00
O. G. sash copes	2 00
Tenoner spurs, plain	1 50
Tenoner cutters, per pair	3 00
Plain jointing and grooving cutters, "six pieces"	4 00
Sash cutters, each bit	50
O. G. door and grooving cutters, each bit	50
Blind slat moulding cutters	5 00
Patent solid matcher cutters, per set of four	6 00
Panel raising cutters, per pair	4 50

IMPROVED EXPANDING DADO HEAD.

This dado or grooving head is the best one made. It is cast-steel, 8 inches in diameter, and has steel bolts with sleeve nuts. The bolts allow the head to hold a cutter any width from $\frac{1}{16}$ to $1\frac{3}{4}$ inches without loosening the nut on arbor. It is provided with spurs, so as to cut lengthwise or crosswise of the wood. Five sets of cutters furnished with each head. Price, $30.00.

JENNINGS PATENT MACHINE BITS.

Size.	PRICE EACH. Twist, 6 inches long	Twist, 9 inches long.	Twist, 12 inches long.	Size.	PRICE EACH. Twist, 6 inches long.	Twist, 9 inches long.	Twist, 12 inches long.
4-16	$ 55	$ 60	$ 65	19-16	$2 10	$2 30	$2 50
5-16	60	65	75	20-16	2 25	2 50	2 70
6-16	65	75	80	21-16	2 35	2 60	2 85
7-16	75	85	90	22-16	2 50	2 75	3 00
8-16	85	95	1 05	23-16	2 60	2 85	3 15
9-16	95	1 05	1 15	24-16	2 75	3 00	3 30
10-16	1 05	1 15	1 25	25 16	2 85	3 15	3 40
11-16	1 15	1 25	1 35	26-16	3 00	3 30	3 60
12-16	1 25	1 40	1 50	27-16	3 10	3 40	3 75
13-16	1 40	1 55	1 65	28-16	3 25	3 55	3 90
14-16	1 50	1 65	1 80	29 16	3 35	3 70	4 05
15-16	1 60	1 75	1 95	30-16	3 50	3 85	4 20
16-16	1 70	1 90	2 10	31-16	3 60	4 00	4 35
17-16	1 85	2 05	2 25	32-16	3 75	4 15	4 50
18-16	2 00	2 20	2 35	.....	.....	.....	.....

Machine Bits are kept in stock, of all standard sizes—twist 6 inches long, and ¼ inch shank only. Other sizes shank will be furnished to order without extra charge up to 9-16 inch.

Bits with *left hand* twist or cut, will be charged 50 per cent. in advance of above prices.

COUNTERSINK BITS.
Price of the two cuts added together.

COUNTERBORE BITS.
(Made to order only. Price, 25 per cent. added to list of regular Machine Bits.

Empty Tool Chests.

All made of Chestnut Wood, Dovetailed Joints, with Movable Black Walnut Trays, Panele l Covers, Walnut Mouldings, Trimmed with Brass Butts, Bronzed Handles, Lock and Key. Sizes are Inside Dimensions.

No.					EACH
24.	21 inches long,	10½ inches wide,	8½ inches deep,	with Two Trays. . .	$3.00
25.	25 inches long,	12½ inches wide,	9½ inches deep,	with Two Trays, . .	3.50
26.	28 inches long,	15 inches wide,	14 inches deep,	with Two Trays. . .	5.50
27.	32 inches long,	18 inches wide,	16 inches deep,	with Two Trays, . .	7.00

Carpenters Tool Chest, No. 2.

Made from Selected Chestnut, Heavy Walnut Mouldings, Patent Dovetail Joints, and Movable Trays. Trimmed with Bronzed Chest Handles, Steel Butts. Lock and Key complete Size, 32 inches long, 18 inches wide, 16 inches deep. Contains 114 Tools, A 1 Quality Mechanics

Price, ... $65.00

1 No. 5 Amoskeag Hand Axe, 6 in. cut.
1 No. 2 Amoskeag Shingling Hatchet, 3¼ cut
1 No. 11½ Maydole Adze-Eye Bell Face Nail Hammer, weight 1 lb.
1 No. 13 Maydole A. E. B. F. Brad Hammer, weight 7½ oz.
1 Set (13) Jennings Pattern C. S. Auger Bits, assorted, ¼ to 1 in.
6 C. S. Gimlet Bits, assorted, 2 to ½ in.
6 Syracuse Hardwood Bit Stock Drills, assorted, 6 to ½ in.
1 C. S. Rose Head Countersink
1 C. S. Square Reamer.
1 C. S. Screw Driver Bit
1 Clark's Large Expansive Bit, cuts ⅜ to 3 inch.
1 Boss Angular Boring Machine, with 3 Augers, 1 each 1, 1½ and 2 in.
1 Snell C. S. Car Bit, ⅞, 12 in. Twist.
3 Morse Bit Stock Iron Drills, 1 each ¼, ⅜ and ½ inch.
1 No. 32 Barber's Patent Chuck Ratchet Brace, 10 inch Sweep.
1 Pair 10 C. S. Dividers.
1 Set (12) Witherby C. S. Socket Firmer Chisels, 6 in. Blades, assorted, ⅛ to 2 inch.
3 Butcher Tanged Firmer Gouges, 1 each ¾, 1 and 1¼ inch.
1 6 inch C. S. Double Caliper.
1 Chalk Line Reel.
1 100 ft. Chalk Line.
1 Rosewood Hollow Handle Awls and Tools, 10 Tools.
1 8 inch Witherby C. S. Drawing Knife.
1 No. 4 Lead Plumb Bob.
1 No. 3 Malleable Iron Oiler.
2 Mill Files and Handles, 1 each 8 and 10 inch.
1 Half Round Bastard File, 10 in.
8 Taper Files, 2 each 3½, 4, 4½ and 5 in.
1 Pair 8 inch Button C. S. Combination Pliers and Wire Cutters.
1 No. 3 C. S. Nail Set.
1 Morrill Patent Bench Stop.
1 Morrill Patent Saw Set.
1 No. 53 Stanley Spoke Shave.
1 Pair 8 inch C. S. Carpenter's Pincers.
1 Ohio Double Smooth Plane, 8 inch, 2 inch Cutter.
1 Ohio Double Jack Plane, 15 inch, 2¼ inch Cutter.
1 Ohio Double Fore Plane, 22 inch, 2⅜ inch Cutter.
1 Ohio Double Jointer Plane, 26 inch 2½ inch Cutter
1 No. 9½ Bailey Patent Block Plane.
1 Pair Stanley Rule, Trammel Points.
1 No. 30 Stanley Adjustable Brass Bound Level.
1 No. 62 2 ft. Brass Bound Boxwood Rule.
1 No. 3 Steel Square, 2 ft.
1 10 inch Stanley C. S. Sliding T Bevel.
1 4½ inch Stanley C. S. Try Square
1 9 inch Stanley C. S. Try Square.
1 No. 177 Rosewood Mortise Gauge.
1 1¼ inch Iron Bench Screw
1 No. 10 Disston's Saw Filers' Vise.
1 Disston's D 8, 20 inch Panel Saw.
1 Disston's D 8, 20 inch Hand Saw
1 Disston's D 8, 28 inch Rip Saw
1 Disston's No. 4, 10 inch Back Saw.
1 Disston's No. 2, 14 inch Compass Saw.
1 Washita Oil Stone.
1 10 inch Coes' Monkey Wrench.
1 Carpenter's Pencil.
1 C. S. Socket Scratch Awl.
1 No. 10 Square Hickory Mallet.
1 Set (4) Clark's Screw Drivers.
1 C. S. Center Punch.
1 C. S. Solid Punch.
1 C. S. Cold Chisel, ½ in.

Farmers Tool Chest, No. 3.

Made from Selected Chestnut Heavy Walnut Mouldings Patent Dovetail Joints and Movable Trays. Trimmed with Bronze Chest Handles, Butts Lock and Key complete. Size, 32 inches long, 18 inches wide, 16 inches deep.

Contains 74 Tools, First Quality Mechanics, ... PER SET **$35.00**

1 Handled C. S. Axe.
1 No. 4 Amoskeag C. S. Hand Axe, 3½ in.
1 No. 2 Phillips C. S. Shingling Hatchet, 3¾ cut.
1 No. 1½ Maydole Adze-Eye Nail Hammer, weight 1 lb.
1 No. 0 C. S. Plow Hammer, weight, 1 lb. 12 oz.
8 C. S. Auger Bits, 1 each ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾ and 1 inch.
2 C. S. Augers and Handles, 1 each 1½ and 2 inch.
4 C. S. Gimlet Bits, assorted, 4 to 11/16 in.
4 Morse Bit Stock Iron Drills, 1 each 3/16, ¼, 5/16 and ⅜ inch.
1 C. S. Screw Driver Bit.
1 No. 129 Patent Chuck Ratchet Brace, 10 sweep.
1 6 inch Stanley C. S. Screw Driver.
4 Witherby Socket Firmer Chisels, 6 in. Blades, 1 each ¼, ½, 1 and 1½ in.
1 C. S. Handled Brad Awl.
1 C. S. Handled Scratch Awl.
1 No. 0 Square Hickory Mallet.
1 8 inch Witherby C. S. Drawing Knife.
1 Pair 6 inch C. S. Dividers.
1 No. 3 Zinc Oiler.
4 Hand Saw Taper Files and Handles, 1 each 3½, 4, 4½ and 5 inch.
1 10 inch Mill File.
1 10 inch Half Round Bastard File.
1 10 inch Round Bastard File.
1 Pair 6 inch C. S. Combination Plyers and Wire Cutters.
1 C. S. Spring Harness Punch.
1 Pair 8 inch C. S. Carpenter's Pincers.
1 No. 3 C. S. Square Nail Set.
1 C. S. Prick Punch.
1 C. S. Center Punch.
1 C. S. Solid Punch.
1 C. S. Cold Chisel, ½ in.
1 No. 2 Nash Saw Set.
1 Ogontz Double Smooth Plane, 8 inch, 2 inch Cutter.
1 Ogontz Double Jack Plane, 15 inch, 2¼ inch Cutter.
1 No. 68 2 ft. Boxwood Rule.
1 No. 24 Iron Square, 2 ft.
1 6 inch Stanley C. S. Try Square.
1 No. 165 Stanley Boxwood Marking Gauge.
1 1¼ inch Iron Bench Screw.
1 Butcher Tanged Firmer Gouge, ¾ in.
1 Disston No. 7, 26 inch Hand Saw.
1 Disston No. 7, 28 inch Rip Saw.
1 Washita Oil Stone.
1 12 inch Wrought Monkey Wrench.
1 10 inch Lathrop Brick Trowel.
1 Pair No. 2 Hand Pruning Shears.
1 Carpenter's Pencil.
1 C. S. Square Reamer.
1 C. S. Rose Head Countersink.
1 8 inch Stanley C. S. Sliding T Bevel.
2 Pair 10 inch Hand Screws.
1 12 inch Disston Compass Saw.
1 Bit Angle and Square Level.

Gents Tool Chest, No. 4.

Made from Selected Second Growth Ash, Heavy Walnut Mouldings Patent Dovetail Joints, and Movable Trays. Trimmed with Bronzed Chest Handles, Steel Butts. Size, 28 inches long, 15 inches wide, 14 inches deep.

Contains 61 Tools, First Quality Mechanics, ... PER SET **27.50**

1 No. 3 Amoskeag C. S. Hand Axe, 3¼ in.
1 No. 11½ Maydole Nail Hammer.
1 No. 43 Maydole Riveting Hammer.
1 Rosewood Handle Gimlet.
6 C. S. Auger Bits, ¼ to ¾ inch.
6 C. S. Gimlet Bits, assorted, 4 to 11/16 in.
2 Morse Bit Stock Iron Drills ¼ and ⅜.
1 C. S. Rose Head Countersink.
1 C. S. Square Reamer.
1 C. S. Screw Driver Bit.
1 No. 1110 Wilcox Patent Chuck Brace.
1 Pair 6 inch C. S. Dividers.
4 Socket Firmer Chisels, ¼ to 1½.
1 Butcher Tanged Firmer Gouge, ¾ in.
1 Chalk Line Reel.
1 50 ft. Chalk Line.
1 Set Hollow Handle Awls and Tools.
1 No. 9 Square Hickory Mallet.
1 8 inch Witherby C. S. Drawing Knife.
1 5 inch Stanley C. S. Screw Driver.
3 Hand Saw Taper Files and Handles.
1 8 inch Mill File.
1 10 in. Half Round Bastard File.
1 Pair 5 C. S. Pliers.
1 Pair 8 inch C. S. Carpenter's Pincers.
1 No. 3 C. S. Square Nail Set.
1 Ogontz Double Smooth Plane.
1 Ogontz Double Jack Plane.
1 No. 9½ Bailey Patent Block Plane.
1 No. 62 Brass Bound 2 ft. Boxwood Rule.
1 8 inch Stanley C. S. Sliding T Bevel.
1 7½ inch Stanley C. S. Try Square.
1 No. 165 Boxwood Marking Gauge.
1 Disston's D 8, 22 inch Panel Saw.
1 Disston's No. 4, 10 inch Back Saw.
1 Washita Oil Stone and Oiler.
1 10 inch Wrought Monkey Wrench.
1 Carpenter's Pencil.
2 Pair 8 inch Hand Screws.
1 No. 1 C. S. Scratch Awl.
1 No. 1 C. S. Iron Spoke Shave.
1 Bit Angle and Square Level.

Youths Tool Chest, No. 5.

(Style of No. 4.) Size, 25 inches long, 12½ inches wide, 9½ inches deep. PER SET

Contains 50 Tools, First Quality Mechanics, ... **20.00**

1 No. 2 C. S. Shingling Hatchet.
1 No. 2 Maydole Nail Hammer.
1 Rosewood Handle Gimlet.
6 C. S. Auger Bits, ¼ to ¾.
4 C. S. Gimlet Bits.
1 C. S. Rose Head Countersink.
1 C. S. Square Reamer.
1 C. S. Screw Driver Bit.
1 No. 1108 Wilcox Patent Chuck Brace.
1 Pair 6 inch C. S. Dividers.
4 Butcher Firmer Chisels, ¼ to 1½.
1 Butcher Tanged Firmer Gouge, ¾ in.
1 Set Hollow Handle Awls and Tools.
1 No. 9 Square Hickory Mallet.
1 7 in. Witherby C. S. Drawing Knife.
1 5 Stanley C. S. Screw Driver.
2 Hand Saw Taper Files and Handles.
1 8 inch Mill File.
1 Pair 5 C. S. Plyers.
1 Pair 8 C. S. Carpenter's Pincers.
1 No. 3 C. S. Square Nail Set.
1 No. 110 Stanley Block Plane.
1 Ogontz Double Jack Plane.
1 No. 61 2 ft. Boxwood Rule.
1 No. 7 20 in. Disston Panel Saw.
1 No. 4 10 in. Disston Back Saw.
1 6 inch Stanley C. S. Try Square.
1 No. 165 Boxwood Marking Gauge.
1 Washita Oil Stone and Oiler.
1 50 foot Chalk Line.
1 Chalk Line Reel.
1 Carpenter's Pencil.
1 No. 1 C. S. Iron Spoke Shave.
1 8 inch Stanley C. S. Sliding T Bevel.
1 No. 1 Scratch Awl.
1 No. 10 Steel Square, 1 foot.
1 Bit Angle and Square Level.

HARDWARE SPECIALTIES DEALERS

Erie Aluminum Cast Ware

the finest ware made.

Coffee Pots and Tea Pots Cast Solid with Sprout and Strainer in one piece. 5 O'Clock Tea Kettles, Chafing Dishes, Water Pitchers, Baking Dishes, Etc.

FINE SELLERS FOR CHRISTMAS

"ERIE" EXTRA FINISHED HOLLOW WARE

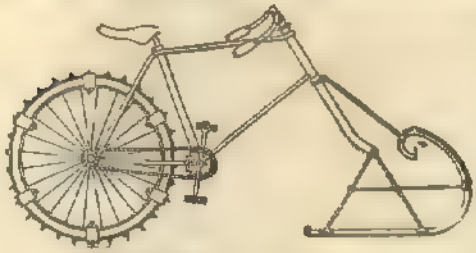
American Waffle Irons—American Dampers and Full Line of Household Specialties.
Write us for Catalogue and Best Prices.

GRISWOLD MFG. CO., ERIE, PA. New York Wareroom ... 294 Pearl St.

ICE BICYLE ATTACHMENTS

A new era in cycling. Something new, novel and useful. No room for improvements. Perfect in every detail. It will be your own fault if you don't get in line and get one and enjoy the sport with the multitudes who will use them this winter.

TIME TEST—1-4 MILE IN 20 SECONDS



PATENTED NOV. 20 1894

Write for Catalogue, or call on your dealer for further information.

CHICAGO ICE-BICYCLE APPARATUS CO

Lakeside Bldg., Chicago, Ill.

TO SUIT EVERYBODY!

DRILLS

9 SIZES

NEW STYLES

LOW PRICES

IF

You sell drills you ought to have our prices for comparison.

THE SILVER MFG. CO.

SALEM, OHIO.

FOOT POWER LATHES

For Electrical and Experimental Work

Gunsmiths and Tool Makers

General Machine Shop Work

Bicycle Repair Work

Catalogue and trade discounts on application

THE BEST FOOT POWER LATHES MADE

W. F. & JOHN BARNES CO.

278 Ruby Street, Rockford, Ills.

Hardware Dealers...

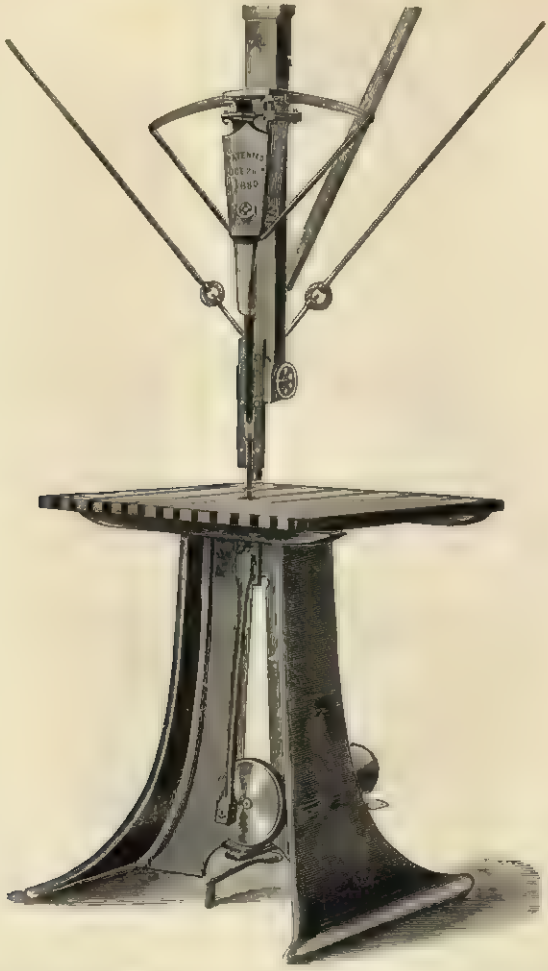
If you handle MIXED PAINTS, or if you contemplate doing so, write for our Color Card of 36 beautiful shades, and special prices on same

Enterprise Paint Mfg. Co.

211 & 213 South Clinton St.

... CHICAGO

COLLADAY'S PATENT SCROLL SAW.

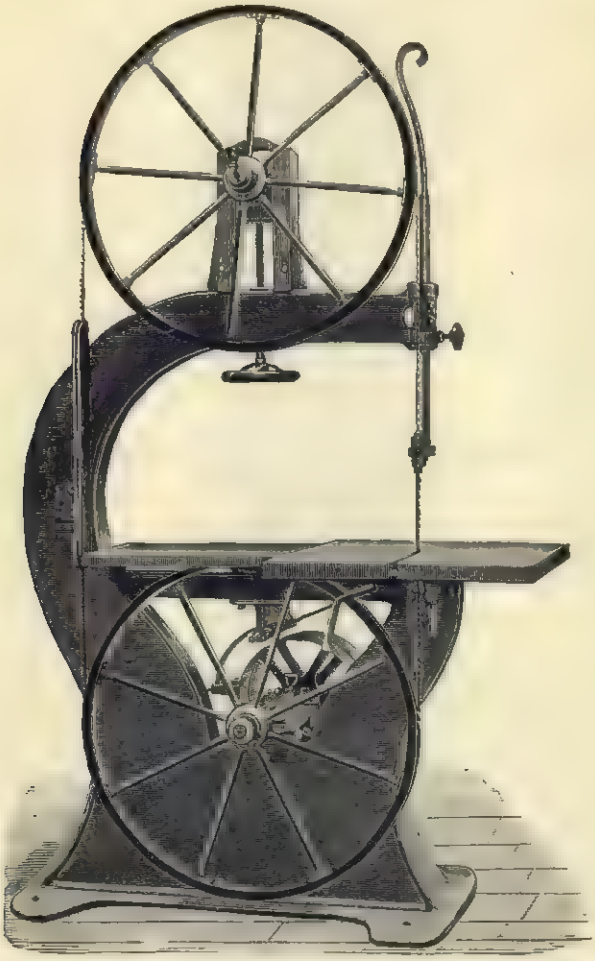


This Machine is very substantially built of iron and steel, with the exception of the table top, which is made of narrow strips of hard wood, and is mounted on a heavy iron pedestal; the journal shaft is steel running in best Babbit metal boxes and provided with loose pulley which relaxes the belt; the shifter and brake are operated by the foot, and adjustable for belts running in any direction; the cross-heads and ways are steel and gun-metal; the springs are steel, and the tension is evenly graduated and increased or diminished by turning screw in lower end of springs.

The driving pulley is 5 inches diameter, 2½ inches face, and should make 900 revolutions per minute.

Price ..... $90 00.

IMPROVED BAND SAW.



The main frame of this machine is cast in one piece. The vertical guide-bar can be raised to take in lumber 17 inches thick. The wheels are 36 inches diameter, with a face of 1¾ inch rims of walnut, covered with thick rubber. The table is of iron, planed perfectly true, and may be tipped to any angle not exceeding 45°.

Each machine is furnished with a scarfing frame, soldering tongs, wrenches and one saw blade.

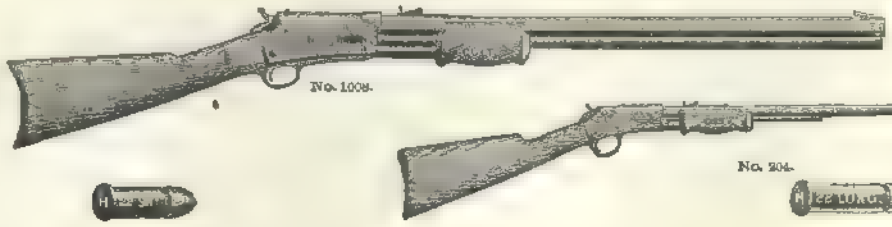
The belt shifter is attached to machine.

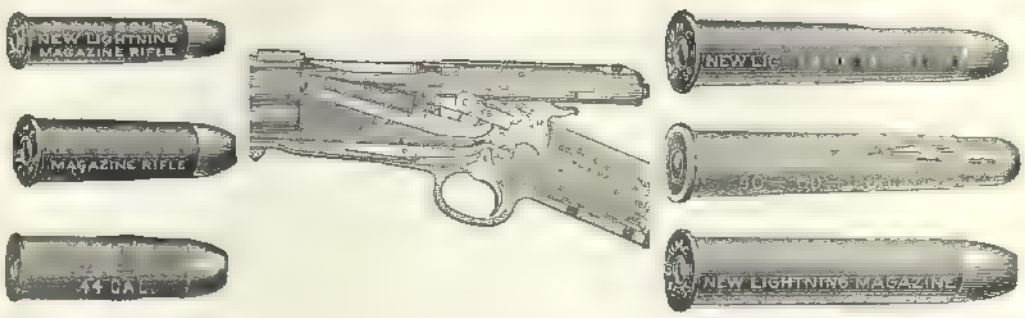
Tight and loose pulleys, 14 inches diameter, 4-inch face, and should make 375 revolutions per minute

Weight, 1400 lbs. Price..... $175 00

Colt's Magazine Rifles.

Colt's New Lightning.





Reciprocating Action. Fifteen Shots in Ten Seconds.

NOS.	DESCRIPTION.	EACH.
104	22 Caliber, Rim, Short or Long; Number of Shots, 15 Long, 18 Short; Round Barrel, 24 inches. Weight, 6 lbs.,	$16 00
204	22 Caliber, Rim, Short or Long; Number of Shots, 15 Long, 18 Short; Octagon Barrel, 24 inches. Weight, 5¾ lbs.,	16 00
306	32 Caliber, C. M. R., 15 Shots, Round Barrel, 26 inches. Weight, 6¾ lbs.,	18 00
406	32 Caliber, C. M. R., 15 Shots, Octagon Barrel, 26 inches. Weight, 7¼ lbs.,	19 50
506	38 Caliber, C. M. R., 15 Shots, Round Barrel, 26 inches. Weight, 6¾ lbs.,	18 00
606	38 Caliber, C. M. R., 15 Shots, Octagon Barrel, 26 inches. Weight, 7½ lbs.,	19 50
706	44 Caliber, C. M. R., 15 Shots, Round Barrel, 26 inches. Weight, 6¾ lbs.,	18 00
806	44 Caliber, C. M. R., 15 Shots, Octagon Barrel, 26 inches. Weight, 7½ lbs.,	19 50
1006	40-65 Caliber, C. M. R., 5 Shots, Octagon Barrel, 28 inches. Weight, 10 lbs.,	19 50
1108	45-85 Caliber, 10 Shots, Round Barrel, 28 inches. Weight, 9¾ lbs.,	19 00

22 Caliber Rifles will take all long or all short 22 caliber cartridges, or a part long and a part short.

The Spencer Repeating Rifle, 44 caliber, 7 shots, only, will take 45-70, 405 gr. or 500 gr. bullet cartridges.

This Rifle is believed to possess advantages over all others now in the market, by the adaptation of the left-handed method of handling, which enables the [illegible] to hold the rifle firmly against the body, with both hands [illegible] the entire discharge. The [illegible] the best of the [illegible] and the workmanship is of the same high standard as that of the other arms manufactured by the company.

The hammer is automatically locked and unlocked by a simple device connecting hammer and handle. The Rifle may be loaded and discharged with lightning rapidity by using the reciprocating motion of the slide, keeping the trigger constantly pressed back during the operation.

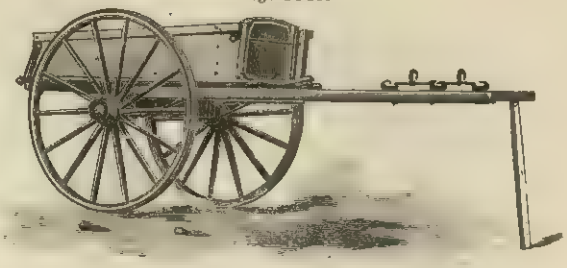
Winchester Single Shot Rifles.

Winchester Single Shot.

NO.	DESCRIPTION.	EACH.
5104	22 Short, Rim Fire, 24 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger,	$15 00
5106	22 Short, Rim Fire, 26 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger,	15 00
6206	32 Short, Rim Fire, 26 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger,	15 00
6206	32 Long, Rim Fire, 26 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger.	15 00
5126	22 Winchester Center Fire, 26 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger,	15 00
5128	25 Winchester Center Fire, 28 inch Octagon Barrel, Weight about 8 lbs., Plain Trigger,	15 00
5126	32 Winchester, Rim Fire, 24 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger,	15 00
6206	32 Winchester Center Fire, 26 inch Octagon Barrel, Weight about 7 lbs., Plain Trigger,	15 00
7104	32-40 Winchester Center Fire, Octagon Barrel, Weight about 9½ lbs., Plain Trigger,	15 00
7108	Same Description as No. 7104 except Set Trigger,	15 00
7304	38-40 Winchester Center Fire, 30 inch Octagon Barrel, Weight about 9½ lbs., Set Trigger,	17 00
8108	38-72 Winchester Center Fire, Smooth Octagon Barrel, Weight about 8½ lbs., Plain Trigger,	15 00
8200	38-55 Winchester Center Fire, 30 inch Octagon Barrel, Weight about 9½ lbs., Plain Trigger,	15 00
8230	38-55 Winchester Center Fire, 30 inch Octagon Barrel, Weight about 9½ lbs., Set Trigger,	17 00
9100	44-40 Winchester Center Fire, 24 inch Octagon Barrel, Weight 9 to 10 lbs., Plain Trigger,	15 00
9130	44-40 Winchester Center Fire, Octagon Barrel, Weight 9 to 10 lbs., Set Trigger,	17 00
9200	40-70 Sharp's Straight Shell, 30 inch Octagon Barrel, Weight 9 to 10 lbs., Plain Trigger,	15 00
9300	45-85 Winchester Model 1886, 30 inch Octagon Barrel, Weight 9 to 10 lbs., Plain Trigger,	15 00
9330	45-85 Winchester Model 1886, Octagon Barrel, Weight 9 to 10 lbs., Set Trigger,	17 00
9400	40-70 Sharp's Straight Shell, 3½ inch 30 inch Octagon Barrel, Weight 9 to 10 lbs., Plain Trigger,	15 00
9500	45-70 Government Center Fire, 30 inch Octagon Barrel, Weight 9 to 10 lbs., Plain Trigger,	15 00
9600	45-90 Winchester, Model 1886, 30 inch Octagon Barrel, Weight 10½ to 11 lbs., Plain Trigger,	17 00

DUMP CARTS.

Fig. 1018.

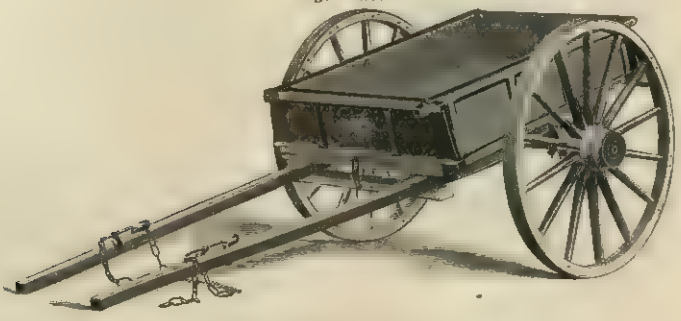


Light Railroad or Farm.

These Carts are designed for light Farm, Railroad or Brick Yard work. The body is hinged to end of shaft, is evenly balanced and easily reset for filling. Removable Front and Tail Gates. Body painted Green. Wheels and Shafts, Red. Bed is 5 feet 4 inches long, 3 feet 2 inches wide; rear, 12 inches deep; front, 14½ inches deep, inside measurements. Axle is 2 inch square steel Skein Boxes, 2x10 inches. Wheels, wood hub, 54 inches diameter; tire, 3x½ inches. Shafts, 6 feet 4 inches long, firmly fastened by heavy iron brace and bolts to axle and bolster. Weight, 565 pounds. Capacity, 18 cubic feet of 2500 pounds.

Price includes back and short trace Chains and all necessary hooks..... .....each.....

Fig. 1019.



Columbus Railroad or Contractors.

These Carts are especially adapted to contractors' work. Bed is of hard wood; panels well bolted together, round at the rear and well braced; panel rails are 1¾x2 inches, bottom boards 1¾ inches thick, sides and ends ¾ inch thick. Bed is 5 feet 6 inches long, 3 feet 7 inches wide; depth 12 inches rear, 15 inches front, inside measurements. Axles, 2¼ inches, square Steel. Skein Boxes, 2¼x10 inches. Wheels are 56 inches diameter, with heavy wood hubs; Tires, 3½x½ inches; Hub, 10 inches diameter, 12 inches long, 14 spokes. Shafts, 6 feet 8 inches long, firmly braced and bolted; they are hinged to axle bolster, which is 4x5 inches. Tail Gate has patent latch Painted Steel Blue Weight, 800 pounds Capacity, 22 cubic feet or 3500 pounds.....each. ....

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PLOWS.

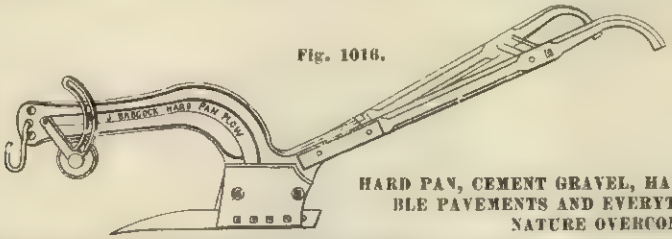
Fig. 1015.

ROAD OR TOWNSHIP.

This Plow is made specially for Township Road work, Beam is of toughest Butt Cut White Oak, length 6 feet, 3x5½ inches at Standard. Standard is Wrought Iron V shaped secured to beam by two strong bolts. Heavy Iron Strap underneath beam extending from standard to Clevis and securely bolted to both.

No. 5. Left Hand cuts 10 inches wide, 12 inches deep, weight, 120 lbs. ..... Price,
No. 15. Right Hand " " " " " " " "

Fig. 1016.



HARD PAN, CEMENT GRAVEL, HARD STREETS, COBBLE PAVEMENTS AND EVERYTHING OF THAT NATURE OVERCOME.

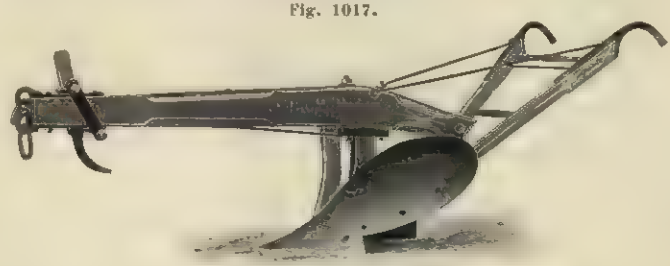
Invaluable to Contractors of Railroad Work, Water Works, Street Grading, Sewer Digging, etc.

THIS Plow will tear up Hard Pan, Soft Shale Rock, Soft Sand Stone, Cobble Streets and everything too hard for any ordinary plow to break up, and not quite hard enough for blasting. Two teams will plow up the hardest street with ease, and do more work in any kind of hard ground than thirty men can do with picks. It is invaluable for all kinds of Railroad and Street work where hard material is encountered, and has been given the most severe tests to prove that it will do all that is claimed for it.

The points are made of the best Tool Steel, and two are furnished with each plow so that while one is being sharpened by a blacksmith the other can be in use. They are sharpened the same as a pick, and do their work better with far less power than anything heretofore in use.

Price with Guide Wheel for two teams..... $35.00 | Price with Guide Wheel for single team $30.00

Fig. 1017.



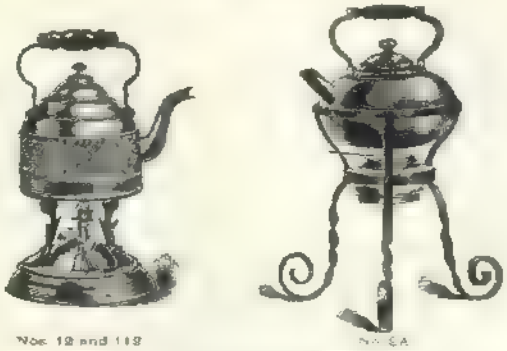
RAILROAD OR GRADING.

THIS Plow is of great strength and remarkable lightness of draft. Beam is of toughest Butt Cut White Oak, length 7 feet, 3½x7 inches at Standard. Braced Handles, Standard Wrought Iron V shaped, Adjustable Gauge, Wheel 3x6½ inches, beam is heavily ironed on both sides with Heavy Iron Strap underneath extending from Standard to Clevis and securely bolted to both. Clevis is Wrought Iron with two strong rings, Handles extra long. It does not turn the soil over but loosens it leaving the trash on top.

No. 3. Left Hand, weight, 200 lbs. .....Price, ... | No. 13. Right Hand, weight, 200 lbs.....Price, .

Tea Kettles.

Five O'Clock.



Nos. 12 and 112 — No. 6A

With Alcohol Lamp to Match.

NO.	DESCRIPTION.	EACH
[illegible]	All Brass, Highly [illegible], Elevated Handle, Height 12½ inches,	$4 25
112	Same as No. 12 but Nickel Plated	4 50
6A	Wrought Iron Stand, Copper Tea Ket[illegible] Highly Polished, Height 12½ inches,	4 75

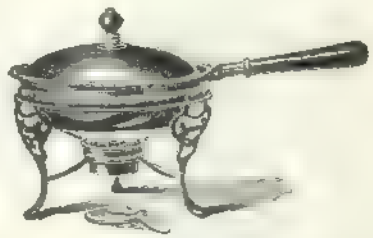
No. 30-67 — No. 333-8.

With Copper Alcohol Lamp and Extinguisher

NO.	DESCRIPTION	EACH.
59-67	Wrought Iron Stand, Copper Tea Ket[illegible], Highly Polished, Height 14 inches,	$6 75
333-8	Wrought Iron Stand, Copper Tea Ket[illegible] Highly Polished, Height 9½ inches,	7 50

Chafing Dishes.

NO.	DESCRIPTION	EACH
1½	Refinned Iron Frame [illegible] Chafing Dish, with Cover and Handle,	$20 00



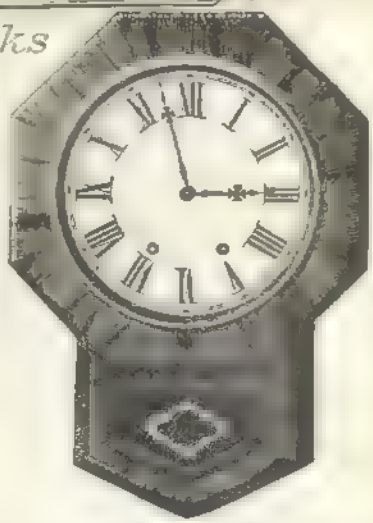
Nickel Plated Alcohol Lamp, with Extinguisher.

NO.	DESCRIPTION	EACH.
1350	Nickel Plated Brass Stand, Nickel Plated Copper Chafing Dish, with Cover and Handle, Capacity 3 Pints, Diameter [illegible] inches, Nickel Plated Copper Hot Water Pan,	$4 50

Nickel Plated Alcohol Lamp, with Extinguisher.

NO.	DESCRIPTION	EACH
3232	Nickel Plated Brass Stand, Nickel Plated Copper Chafing Dish, with Handle and Cover, Capacity 3 Pints, Diameter 9¼ inches, Nickel Plated Copper Hot Water Pan, Height 9¾ inches,	$10 00

Office Clocks



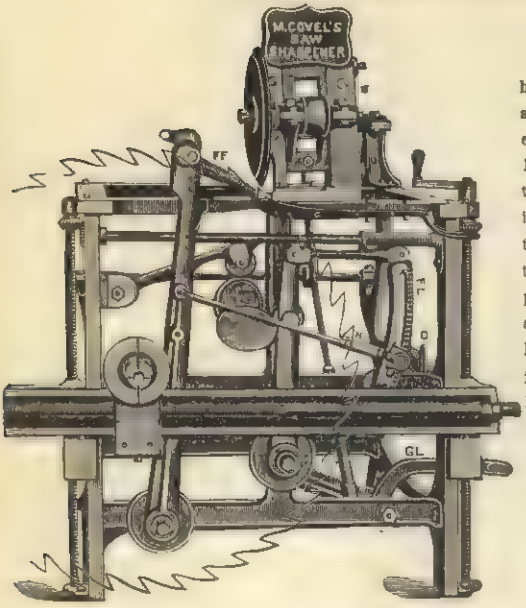
NO.	DESCRIPTION	
33	Lgbt or Dark Wood Case, Time	8
332	Lgbt or Dark Wood Case, Time	

NO.	DESCRIPTION	
327	Imitation Walnut Case, Time	
328	Imitation Walnut Case, Time	
329	Imitation Walnut Case, Time, Calendar	
330	Imitation Walnut Case, Time, Calendar	

NO.	DESCRIPTION	
327	Imitation Walnut Case, Time	
328	Imitation Walnut Case, Time	
329	Imitation Walnut Case, Time, Calendar	
330	Imitation Walnut Case, Time, Calendar	

NO.	DESCRIPTION	
341	Imitation Dark Walnut Case, Time	
342	Imitation Dark Walnut Case, Time	
343	Imitation Dark Walnut Case, Time, Calendar	
344	Imitation Dark Walnut Case, Time	

COVEL'S AUTOMATIC SAW SHARPENER.



Covel's Saw Gummers and Sharpeners have a high reputation among mill men, and are in such extensive use that detailed description of them is unnecessary. They give any desired shape to the tooth, take circular saws of all sizes up to 72 inches diameter, and gum or sharpen the teeth exactly uniform, without any attention from the operator after the saw is properly placed in the machine. By a simple adjustment they can be used as a hand machine, when for any reason that is preferred. Driving pulley on shaft, 15 inches diameter, should have 150 revolutions.

At a moderate additional expense these machines can be fitted for sharpening Band and Gang saws.

Weight, about 700 lbs. Price $175.

PHOENIX SAW GUMMING MACHINE.

This the cheapest first-class saw sharpener and gummer now made. It takes any diameter of saw, and does the same work as the more expensive machines. An adjustable stop regulates the depth of cut, and the various movements of the machine permit any desired adjustment of the saw for gumming square or beveled teeth. The bearings are babbited, and the work throughout is of good character.

Tight and loose pulleys 4-inch diameter 2¼-inch face, should run 950 per minute. Drive pulley and arbor pulley take 2½-inch belt. The emery wheel should be 12 inches diameter.

Price, with one 12x⅝ inch emery or corundum wheel, $60.

A SUPERB LINE

CRESCENTS

FOR 1896

Why *our agents are satisfied, both as to quality and quantity*

We are the largest bicycle builders in the world
We possess unrivaled facilities for manufacture
We employ only skilled labor
We adopt every improvement worthy of adoption
We stand behind our agents, first, last, and all the time
We learn what riders want, and furnish it

CRESCENTS

Are up to date in style, finish, and structural merit, and were first upon the market as high-grade wheels, at a price of

$75.00

We are adding to our list of agents

WESTERN WHEEL WORKS

BUILDERS

Factory
Wells and Schiller Streets
Chicago, Ill.

Eastern Branch
35 Barclay Street
New York City

Our stands at the coming cycle shows are
New York, Nos. 114 to 119 inclusive
Chicago, Nos. 266 to 270 inclusive

Think about it They know its merits

PEOPLE WHO SOLD

The National Bicycle in 1895

WILL SELL

in 1896

NATIONAL CYCLE MFG. CO.

BAY CITY, MICH.

Phœnix Bicycles

Are Always Satisfactory

SPECIFICATIONS OF THE PHŒNIX

Frame 22, 23, 24, 25 inches; 1¼ x 10 inch head; 1 inch tubing. Double fork crown. Handle bar, dropped or raised, choice of 6 styles. Bearings, dust proof. Sprocket wheel, dropped forged, detachable. Gear, 64, choice of 60, 63, 66½, 68, 72. Pedals, rat trap, rubber, optional. Cranks, 6 inches, choice of 6½, 7. Chain, Perry Humber pen steel bushed, imported. Tread, 6 inches. Rims, wood, steel, optional. Spokes, cold swaged. Tires, choice of New York, M. & W., G. & J., Palmer, Dunlop. Weight, from 21 to 24 lbs.

Prospective buyers will note that as our specifications are great in variety, we are in a position to satisfy all riders. Once satisfied regarding specifications the Phœnix rider has ***satisfaction*** complete, because the wheel cannot fail to please, and we ***guarantee*** it.

Stover Bicycle Manufacturing Company

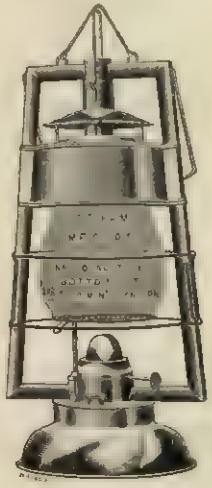
EASTERN BRANCH
575 Madison Ave., New York City

Send for Catalogue

FREEPORT, ILL.

FIRE DEPARTMENT SUPPLIES.

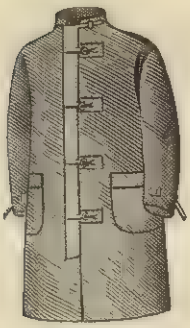
Fig. 1709



Brass Tubular Firemen's Lantern.

Fig. 1710

Fig. 1711



Firemen's Rubber Coat.

The best coat for fire service, fitted with fastenings of snaps and rings. These are much quicker and easier fastened than buttons or buckles. Water is excluded from the wrist and arm by use of an adjustable strap. Price, each, $4.25

Firemen's Rubber Boots.

All firemen will appreciate this boot which is gotten up especially for their use.

Price, per pair, $4.00

State sizes in ordering.

Firemen's Rubber Caps.

Skull Cap, with full Cape, opening in front for face.... Price, each, $1.00

Rubber Gloves.

Suitable for Pipemen. All made large enough and intended to be worn over another pair.

Price, per pair, $1.75; with gauntlets, per pair, $2.25

QUEEN CITY SUPPLY CO. CINCINNATI, O.

FIRE DEPARTMENT SUPPLIES.

HOSE PIPES.

Fig. 1705

Adapted for use in fire departments. Have screw nozzles, and are finished plain or with swivel handles, as shown in cut. Will be wound and painted, when desired.

2 inch,	2½	inch and	2½	inch	x	20	inches	long,	$3.75	plain ;	$5.50	swivel	handle :	$6.50	sw'vl	hn'dl,	w'nd	and	Painted.
2	"	2½	"	"	2½	"	x	24	"	"	4.50	"	6.50	"	"	7.00	"	"	"	"	"
2	"	2½	"	"	2½	"	x	30	"	"	6.00	"	7.50	"	"	9 00	"	"	"	"	"
2	"	2½	"	"	2½	"	x	36	"	"	6.50	"	8.50	"	"	10.00	"	"	"	"	"

Fig. 1706

THE UNDERWRITERS' HOSE PIPE.

Screw Nozzle, Swivel Handle, Wound and Painted, 2½ inch x 30 inches long $9 00

This Pipe is made in conformity to the requirements of Insurance Underwriters.

Fig. 1707

No. 1—To divide one stream.....$10.00

Fig. 1708

No. 2—To unite two streams..... $10.00

SIAMESE CONNECTIONS WITHOUT VALVES.

On many occasions it becomes desirable to have a second stream, and it can be done in no way so easily as by the use of Siamese No. 1. The Female Coupling is connected by a single line to the engine or hydrant, and two shorter lines connected to the Males, and conducted to the required points.

No. 2 is for the purpose of combining two streams in one, and increasing its efficiency for a severe fire. The hose from two engines or hydrants is connected with the Females, and a single short line with the Male, by means of which a great body of water can be discharged effectually.

For additional equipment coupling and nozzles, etc., see pages 157 to 168.

D. & M. Boxing Gloves Striking Bags

ARE THE BEST

Just what the trade are looking for—*our line and prices.*

Don't place any orders before sending for our Catalogue and prices to the trade

MANUFACTURED BY

DRAPER & MAYNARD

ASHLAND, N. H.

Our Name and Brand
A Guarantee of Quality

"IT IS QUILTED"

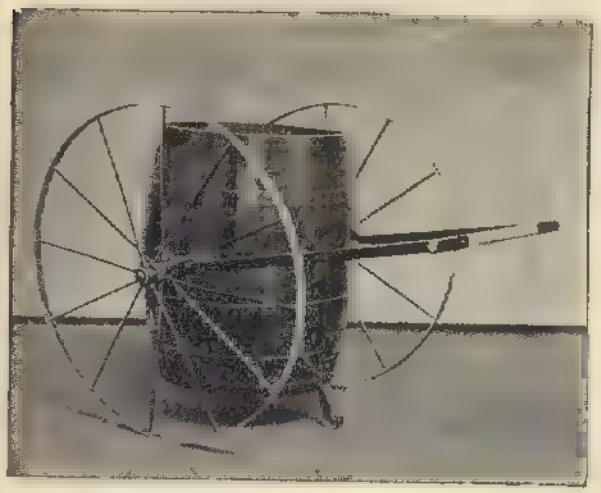
An entirely new departure in the manufacture of sewed rubber belts is shown in our *"Gladiator"* Seamless Quilt Stitched Belt. It is double stitched, the lines of stitching being put in obliquely and cross ng each other; in other words, "it is quilted." *The Strongest, Most Durable and Only Satisfactory Sewed Belt on the Market.*

SEND FOR SAMPLE AND PRICES

N. J. Car Spring & Rubber Co.

Main Office and Works, JERSEY CITY, N. J.

Eclipse Barrel Cart



Steel Frame and Wheels
Strong and Durable
Will Not Tip if Left
Standing On an Incline

Price Each, $2.75 F. O. B. Minneapolis.

WHEELBARROWS
. . ALL KINDS

WESTERN WASHERS
LATEST PATTERN

Winners Every One — Send for Prices and Catalogue

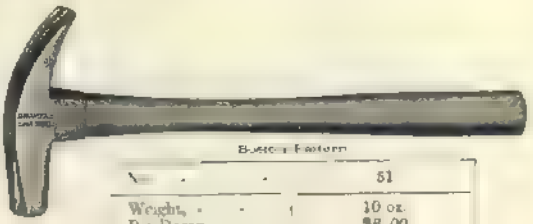
SWEATT MFG. CO., - - MINNEAPOLIS, MINN.

David Maydole & Co's Solid Cast Steel Hammers.

Adze Eye Farriers' Hammers.

No.	52
Weight, Per Dozen,	8 oz. $5 00

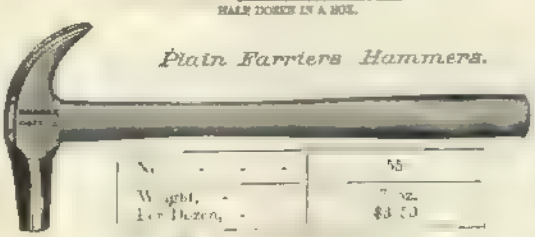
HALF DOZEN IN A BOX.



No.	51
Weight, Per Dozen,	10 oz. $6 00

HALF DOZEN IN A BOX.

Plain Farriers Hammers.



No.	55
Weight, Per Dozen,	7 oz. $3 50

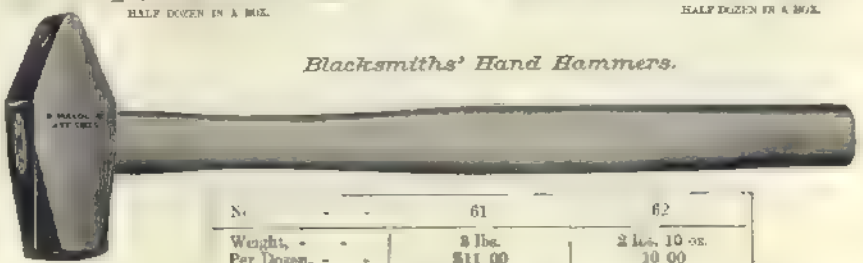
HALF DOZEN IN A BOX.

Riveting Hammers.

No.	40	41	42	43	44
Weight, Per Doz.,	1 lb 8 oz. $6 00	1 lb 2 oz. 5 00	18 oz. 4 25	7 oz. 3 50	4 oz. 3 00

HALF DOZEN IN A BOX.

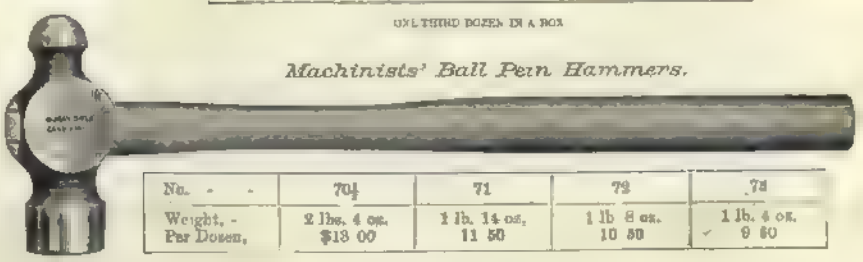
Blacksmiths' Hand Hammers.



No.	61	62
Weight, Per Dozen,	3 lbs. $11 00	2 lbs. 10 oz. 10 00

ONE-THIRD DOZEN IN A BOX.

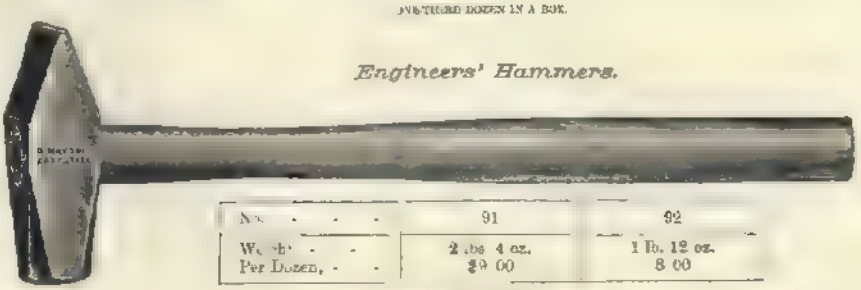
Machinists' Ball Pein Hammers.



No.	70½	71	72	73
Weight, Per Dozen,	2 lbs. 4 oz. $13 00	1 lb. 14 oz. 11 50	1 lb 8 oz. 10 50	1 lb. 4 oz. 9 60

ONE-THIRD DOZEN IN A BOX.

Engineers' Hammers.

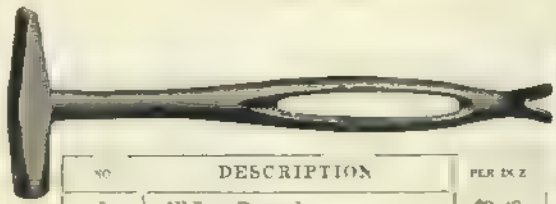


No.	91	92
Weight, Per Dozen,	2 lbs 4 oz. $9 00	1 lb. 12 oz. 8 00

ONE-THIRD DOZEN IN A BOX.
ABOVE WEIGHTS INCLUDE HANDLES.

Tack Hammers.

Common Iron.



NO.	DESCRIPTION	PER DOZ
5	All Iron, Bronzed, -	$0 42

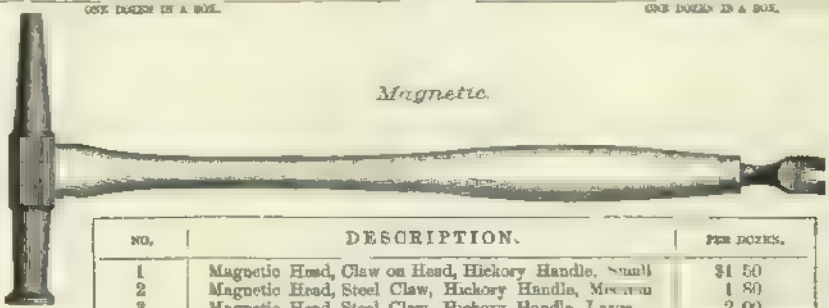
ONE DOZEN IN A BOX.

Upholsterers' Pattern.

NO.	DESCRIPTION	PER DOZ
20	Malleable Iron, Tinned, - -	$1 25

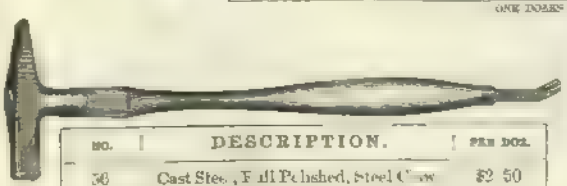
ONE DOZEN IN A BOX.

Magnetic.



NO.	DESCRIPTION.	PER DOZEN.
1	Magnetic Head, Claw on Head, Hickory Handle, Small	$1 50
2	Magnetic Head, Steel Claw, Hickory Handle, Medium	1 80
3	Magnetic Head, Steel Claw, Hickory Handle, Large,	2 00

ONE DOZEN IN A BOX.



NO.	DESCRIPTION.	PER DOZ.
36	Cast Steel, Full Polished, Steel Claw	$2 50

ONE DOZEN IN A BOX.

NO	DESCRIPTION.	PER DOZ.
25	Polished Iron Hickory Handle,	$0 85
160	Y. & P. Cast Steel, Polished, Hickory Handle, - -	3 50

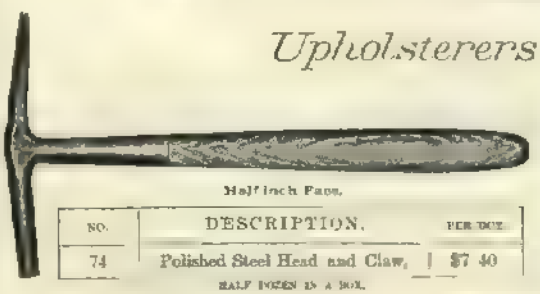
ONE DOZEN IN A BOX.

Inlaid Handle.

NO.	DESCRIPTION	PER DOZEN.
4	Malleable Iron, Polished, Handle Inlaid with Black Walnut, - - - - - - -	$2 35

ONE DOZEN IN A BOX.

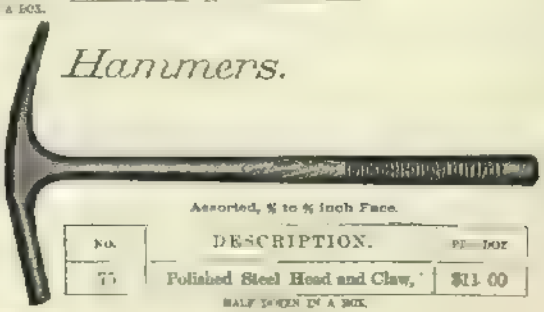
Upholsterers' Hammers.



Half Inch Face.

NO.	DESCRIPTION.	PER DOZ.
74	Polished Steel Head and Claw,	$7 40

HALF DOZEN IN A BOX.



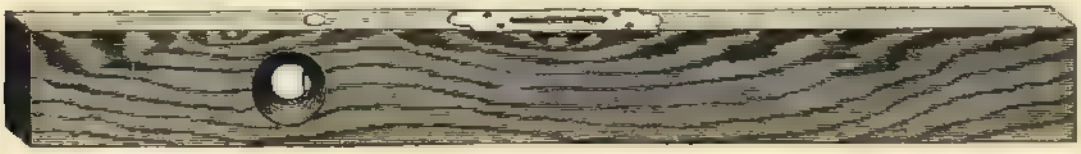
Assorted, ⅜ to ⅝ Inch Face.

NO.	DESCRIPTION.	PER DOZ.
75	Polished Steel Head and Claw,	$11 00

HALF DOZEN IN A BOX.

Plumbs and Levels.

Stanley Rule and Level Co.'s.



Nos. 00 and 0.

No.		Per Dozen
00.	Arch Top Plate, Two Side Views, Assorted, 18 to 24 inches,	$16.00
0.	Arch Top Plate, Two Side Views, Assorted, 24 to 30 inches,	18.00
102.	Levels, Arch Top Plate, Two Side Views, Polished, Assorted, 10 to 16 inches.	9.00
103.	Levels, Arch Top Plate, Two Side Views, Polished, Assorted, 18 to 24 inches,	12.00

Patent Adjustable Plumbs and Levels.

Assorted, 26 to 30 inches.

2.	Polished, Arch Top Plate, Two Brass Lipped Side Views,	27.00
6.	Mahogany, Arch Top Plate, Two Brass Lipped Side Views,	33.00

No. 3.

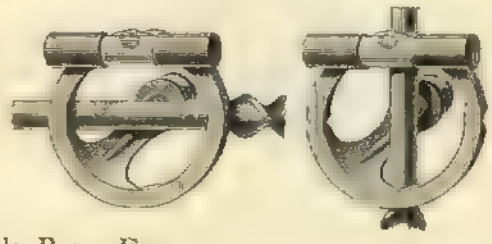
3.	Polished, Arch Top Plate, Two Side Views, Brass Tipped,	30.00

Nos. 4 and 9.

4.	Polished, Arch Top Plate, Two Brass Lipped Side Views, Brass Tipped,	39 00
5.	Tripple Stock, Arch Top Plate, Two Lipped Side Views, Brass Tipped,	48.00
9.	Mahogany, Arch Top Plate, Two Lipped Side Views, Brass Tipped,	48.00
10.	Mahogany, Triple Stock, Two Lipped Side Views, Brass Tipped,	60.00

Half Dozen in a Box.

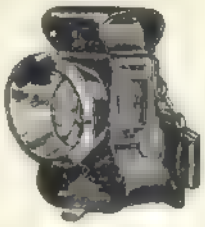
Bit and Square Levels.



44.	Bit and Square Levels, Brass Frame.	3.60

Bicycle Sundries.

Lamps.



Demon and Cyclone.

The Demon is a good lamp at a very low price. 2½ inch beveled glass, ruby side lights, hinged front, large wick, detachable reflector, spring check, rubber cushioned socket.

The Cyclone is the same, with the exception that it has a 2¾ inch lens instead of plate glass.

DESCRIPTION.	EACH.
Demon, Height 4½ inches, Weight 12 ounces	$ .00
Cyclone, Height 4½ inches, Weight 11 ounces,	. .25

King of Trumps

A fine lamp for the money. Has hinged lens, seamless plated concentrator and reflector. Hinged front, comet beveled side lights. Adjustable spring check rubber lined socket. The body is securely riveted and well made.

DESCRIPTION.	EACH.
King of Trumps, Height 4⅝ inches, Weight 12 ounces,	$1 50

Planet.

This lamp is made by Jas. Lucas & Sons, Birmingham, England, and for the price has no equal for a miniature lamp. Has a 2½ inch beveled plate glass lens, oil reservoir removable in front, large wick, plated reflector entirely covering the back of interior spring check, rubber lined socket.

DESCRIPTION.	EACH.
Planet, Height 5 inches, Weight 12 ounces,	$1 50

Ripper.

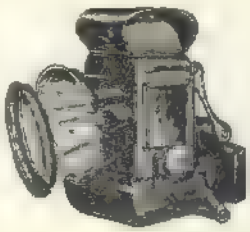
Made of one piece and very small, neat and light. Has a fine 2¼ inch hinged lens, large silvered reflector, lift ruby side lights, oil reservoir forms the base and is detached at the side, spring check, thumb screw fastening, rubber lined socket, nickel trimmed.

DESCRIPTION.	EACH.
Ripper, Height 4½ inches, Weight 10 ounces,	$2 00

Tom Thumb.

The body of the lamp is made by machinery, in [illegible] Heat cannot melt it. In [illegible] Fine 2¼ inch hinged lens, comet beveled ruby lift side lights, silvered reflector and seamless concentrator, large oil reservoir removable from the side, nickel trimmed, adjustable spring check, rubber lined [illegible].

DESCRIPTION	EACH.
Tom Thumb, Height 4½ inches, Weight 12 ounces,	$2 50



Zephyr.

A very fine well made lamp and a large light giver. Fine 2¼ inch hinged lens, large silvered reflector and seamless concentrator, lift side lights, adjustable spring check rubber lined socket, thumb screw, oil reservoir forms base and is detachable from side, large wick, nicely trimmed.

DESCRIPTION.	EACH.
Zephyr, Height [illegible] inches, Weight 11 ounces	$3 00

Kinglet.

Manufactured by Jos. Lucas & Sons, Birmingham, England. It is fastened together with rivets and will not melt apart. Has a fine 2¼ inch hinged lens, [illegible] large oil reservoir, is detachable and [illegible] piece with [illegible] without removing burner. Large wick. The top is hinged and can be [illegible] Heavily [illegible] the reflector [illegible] nickel plated, not [illegible] but [illegible] handsome, [illegible] plated [illegible] best [illegible] side lights, [illegible] spring check.

DESCRIPTION	EACH.
Kinglet, Height 4⅛ inches, Weight 10 ounces,	$4 50

Flash Light.

[illegible] new and [illegible] kerosene [illegible] large light. [illegible] fittings, [illegible] plated, nickel, [illegible] and finely finished [illegible] The [illegible] inch hinged lens, the bottom containing the reservoir detaches, adjustable spring check. The lamp is hung from the centre and is accurately balanced, detachable reflector.

DESCRIPTION	EACH.
Flash Light, Height 5 inches,	$5 50

Bicycle Sundries.

Wrenches.

NO.	DESCRIPTION	PER DOZEN
7	Varsity, All Steel, Nickel Plated, Very Light and Strong, 5¼ inches Over All, 1¼ inches.	$6 00

NO.	DESCRIPTION	PER DOZEN.
8	Diamond, All Steel, Blued, 4½ inches; Opens 1½ inch,	$7 20
9	Diamond, All Steel, Nickeled, 4½ inches; Opens 1½ inch,	9 00

NO.	DESCRIPTION	PER DOZEN
11	H., S., B. & Co.'s All Steel, Nickel Plated, 5½ inches; Opens 1½ inches,	$9 00

NO.	DESCRIPTION	PER DOZEN
19	Acme, Polished, 4½ inches,	$6 00
20	Acme, Plated, 4½ inches	9 00

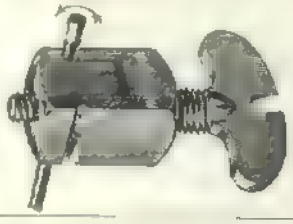
NO.	DESCRIPTION.	PER DOZEN.
18	Hercules, 4½ inches,	$ 15

NO.	DESCRIPTION.	PER DOZEN.
17	Favorite, Nickel Plated,	$

Small Screw Drivers.

NO.	DESCRIPTION.	PER DOZEN.
12	Cast Steel Blade, Steel Ferrule, Ebony Handle, Extra Length 6 Inches,	$3 60
13	Cast Steel Blade, Steel Ferrule, Ebony Handle, Extra Length 7½ Inches,	3 00

Spoke Grips.



DESCRIPTION.	PER DOZEN.
Chicago Spoke Grips,	$9 00

A tangent and direct Spoke Grip combined. The Chicago [illegible] with a differential screw which gives a fine adjustment [illegible] the market, and it can be [illegible] screwed up with the [illegible] effected by any [illegible]

Perfect Nipple Grip.

DESCRIPTION	PER DOZEN
Perfect Nipple Grip, All Steel,	$ 5 00

Oilers.

Nos. 10 and 20.

No. 25.

No. 30.

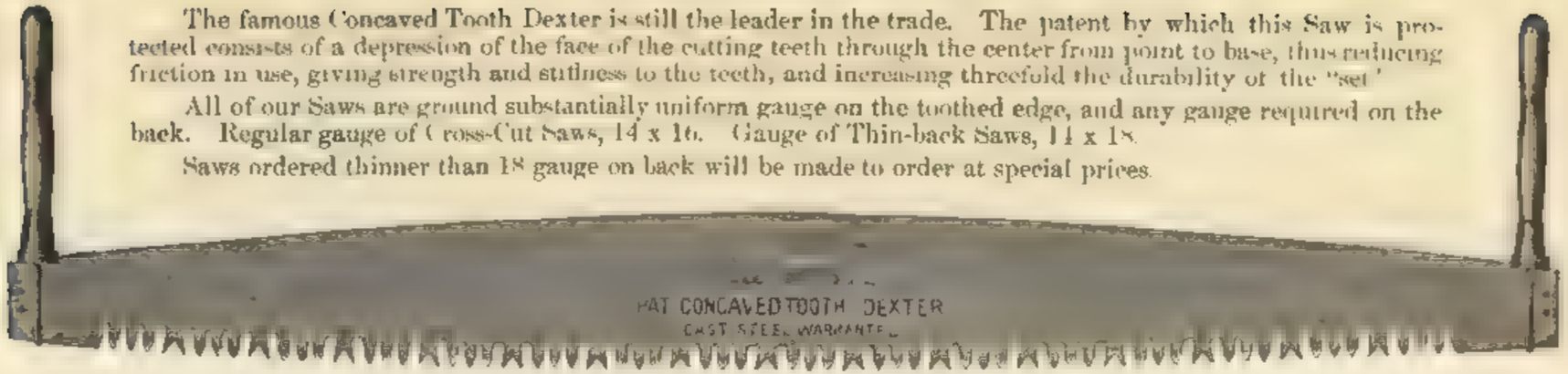
NO.	DESCRIPTION.	PER DOZEN.
10	Nickel Plated, Leather Case, Vine Pattern,	$ 60
20	Gilt, Embossed, Vine Pattern,	3 00
[illegible]	Star Lever Nickel Plated, Screw Cap,	4 [illegible]
[illegible]	Perfect Patent Oiler, Brass Nickel Plated,	[illegible]

DEXTER CROSS-CUT SAW.

The famous Concaved Tooth Dexter is still the leader in the trade. The patent by which this Saw is protected consists of a depression of the face of the cutting teeth through the center from point to base, thus reducing friction in use, giving strength and stiffness to the teeth, and increasing threefold the durability of the "set."

All of our Saws are ground substantially uniform gauge on the toothed edge, and any gauge required on the back. Regular gauge of Cross-Cut Saws, 14 x 16. Gauge of Thin-back Saws, 14 x 18.

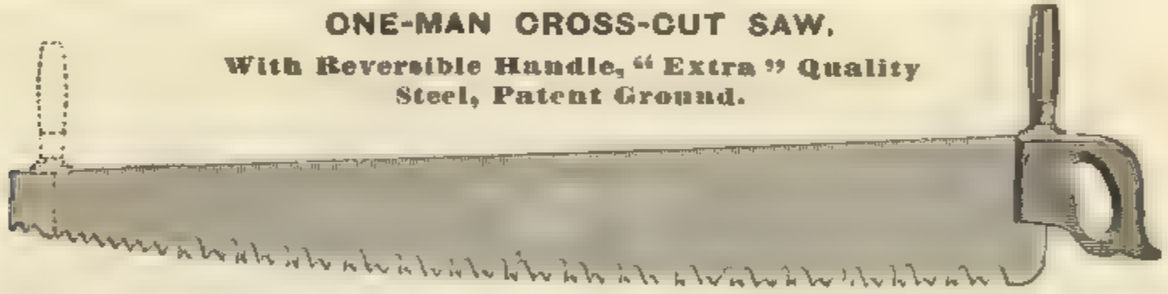
Saws ordered thinner than 18 gauge on back will be made to order at special prices.



Price, SILVER STEEL DEXTER, including Handles and Gauge, $1.00 per foot. No extra charge for thin back.
Price, SELECTED STEEL DEXTER, regular pattern, 75c per foot. Thin back 80c per foot.

ONE-MAN CROSS-CUT SAW.

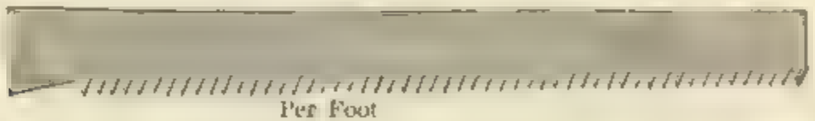
With Reversible Handle, "Extra" Quality Steel, Patent Ground.



Length, feet	3	3½	4	4½	5	5½	6
Price, each	$2 75	$2 75	$3 50	$4 00	$4 50	$5 00	$5 50

This Saw can be adjusted for either one or two men.

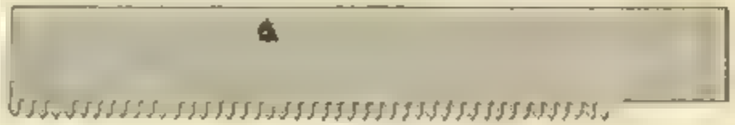
BUTTING OR DRAG SAWS.



	Per Foot		Per Foot.
10-in. butt, 8-in. point, 8 gauge	$1 60	7 -in. butt, 5 -in. point, 11 gauge	$1 10
10-in. butt, 8-in. point, 9 gauge	1 55	7½-in. butt, 4½-in. point, 10 gauge	1 15
9-in. butt, 7-in. point, 8 gauge	1 50	7½-in. butt, 4½-in. point, 11 gauge	1 10
9-in. butt, 7-in. point, 9 gauge	1 45	Equal width, 8 in. point, 10 gauge	1 45
8-in. butt, 6-in. point, 10 gauge	1 25	Equal width, 9-in point, 10 gauge	1 55
8-in. butt, 6-in. point, 11 gauge	1 20	Equal width, 10-in point, 10 gauge	1 75
7-in. butt, 5-in. point, 10 gauge	1 15	Equal width, 12-in. point, 10 gauge	2 00

Saws over 7 feet long, use Lance Tooth List. Filed and set, add 5 cents per foot to net price.

LANCE TOOTH DRAG SAWS.

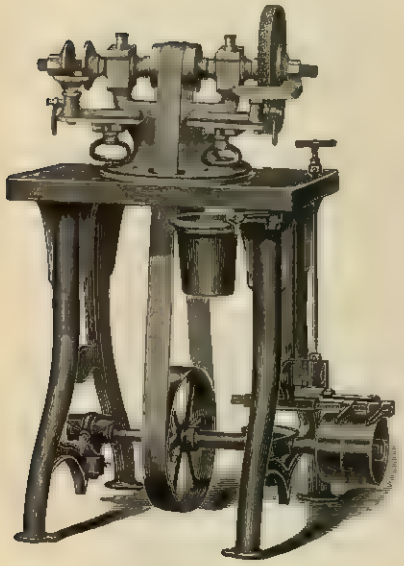


	6 gauge.	7 gauge.	8 gauge.	9 gauge.	10 gauge.
9 inches wide, per foot	.....	$2 20	$2 00	$1 75	$1 55
10 inches wide, per foot	.....	2 55	2 20	2 00	1 75
12 inches wide, per foot	.....	3 00	2 65	2 40	2 20
14 inches wide, per foot	$3 95	3 65	3 30	3 00	2 65

Saws over 8 feet long, extra price.

GRINDING MACHINES.

Fig. 140.



No. 4.

The above cut shows an attachment applied to our regular No. 4 Machine, whereby the polishing is done by means of an endless belt. It is practically adapted to all kinds and shapes of articles in hardware, and other metals where the ordinary polishing wheel can not be used. The flange pulley can be readily removed from the machine, and an ordinary polishing or solid wheel used in its place. The belt strapping attachment can be supplied to use upon any machine that will run wheels 12 inches in diameter. We make eight widths flange pulleys; will run belts from 1¾ inches up to 6 inches. The one to use, 1¾ inch belt, will be sent, unless otherwise ordered. The countershaft used with this machine, where the driving shaft shown is not required, is our No. 2 Patent; has tight and loose pulleys, 6 inches in diameter, 2¾ inch face. Driving pulley 12 inches in diameter, 3 inch face. For the machine shown, countershaft should run 400 revolutions per minute; this will give to the speed of spindle 1,200 turns.

No. 4 Machine, as shown in cut, complete, with driving shaft and belt strapping attachment, $85.00
Belt strapping attachment only..... 25.00

"DIAMOND."

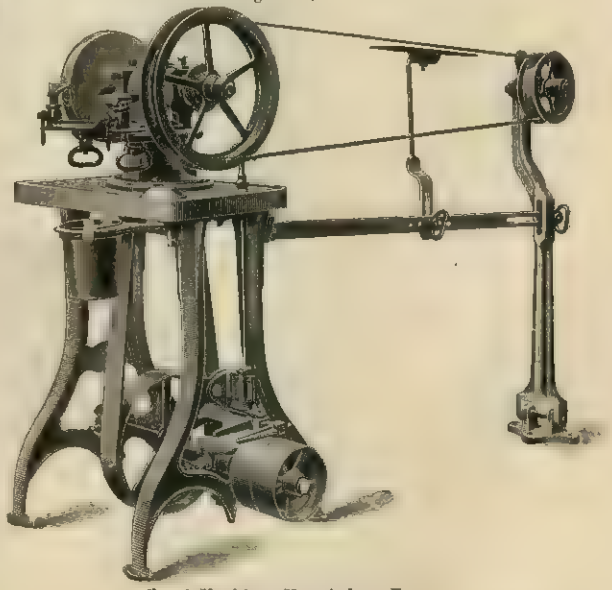
Mounted on Frame, with Driving Shaft and Hadley's Patent Belt Shifter Attached.

This machine is shown mounted on a neat and substantial frame, with driving shaft under and Hadley's Patent Belt Shifter attached as a fixture to the stand, for the purpose of shifting the belt handily. The stand has also, permanently attached, a water pot, arranged for the purpose of cooling the work when desired. When not in use, it can be swung under the table.

The No. 4 Machine will run two wheels up to 12 inches in diameter; has steel spindle, two rests, with wrench permanently attached to each rest, the bearings so enclosed as to prevent the admission of emery dust, brass oil cups with patent oil feeders, and is in every respect a first-class machine for tool grinding and light work.

Weight, with Frame and Countershaft..	300 pounds
Size of Base.....	12 x 8⅛ inches
Height from Bench to Center of Spindle	9 "
Distance between Wheels	15 "
Length of Bearings.	4 "
Diameter of Spindle in Bearings	1⅛ "
Diameter of Spindle between Flanges	1 "
Size of Pulley on Spindle.	4 x 3½ "
Height of Stand from floor to top of Iron Table..	80 "
Size of Iron Table.....	25 x 14 "
Weight of stand...	175 pounds
No. 4 Grinding Machine, Stand and Driving Shaft, as shown	$60 00
No. 4 Grinding Machine (head)..	28 00
Frame, with Water Pot attached	17.00
Driving Shaft and Patent Belt Shifter attached; or Hadley's Patent Countershaft, for overhead use	15 00

Fig. 141.

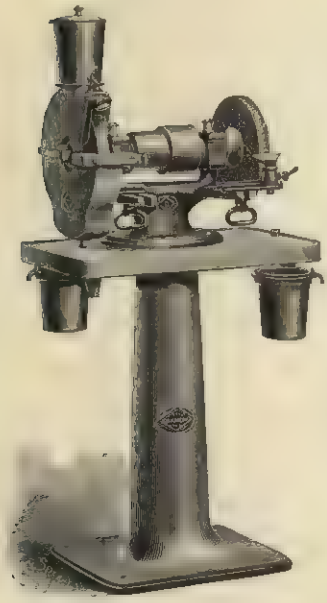


No. 4 Machine, Mounted on Frame.
DRIVING SHAFT UNDER, WITH BELT STRAPPING ATTACHMENT.

GRINDING MACHINES.

"DIAMOND."

Fig. 142.



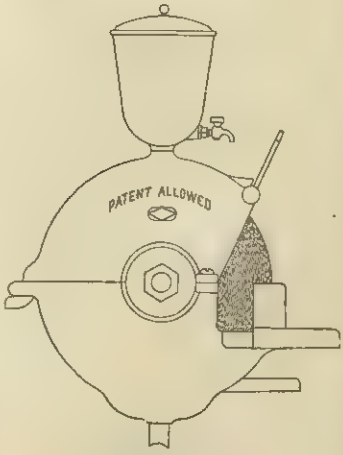
No. 5, with Water Attachment.

THE accompanying attachment combines in one machine the use of emery wheels either in water or dry; it can be placed upon one or both ends of the spindle; it has a recess cast on the inside of the attachment that effectually prevents the throw of the water, leading it directly to the bottom of the attachment through the pipe into the water pot below. The water pot over the wheel can be removed readily. It is also arranged as a fixture that can be dislocated only at the will of the operator. The water pot below is likewise arranged. The tool rest is movable to and from the wheel, as desired.

No. 5 Grinding Machine, with Column, Countershaft and Water Attachment, $82 50.

No. 5 Machine, Grinding, Head (only)	$35.50
No. 5 Machine, Grinding, Column	15.00
No. 5 Machine, Grinding, Countershaft	17.00
No. 5 Machine, Grinding, Water Attachment	15.00

Fig. 143.



Water Attachment.

WATER ATTACHMENTS.

For Nos. 2, 3, 4 and 5 "Diamond" Grinding Machines.

The illustration shows an outline drawing of attachment; it can be applied to any of the machines mentioned.

Price for No. 2 Machine	$10.00
Price for No. 3 Machine	12.00
Price for No. 4 and 5 Machine	15.00

HARDWARE SPECIALTIES DEALERS

"TRIUMPH" SELF-WRINGER

MOPS of all kinds

Common and Patent

THE PHOENIX MANF'G CO. Cleveland, Ohio

As an article REQUIRED in the HOUSEHOLD, Hardware Dealers should obtain Samples, Prices, etc.

C. T. Ham Manufacturing Co.

ROCHESTER, N. Y.

Lamp and Lantern Manufacturers

Lanterns in Tin
Tin
Japanned
Brass
Brass, Nickel Plated
Brass, Silver Plated
Brass, Gold Plated

A full line of fine Conductor Lanterns

Send for Catalogue

Lamps of all descriptions

Square Street
Globe Street
Side, Driving
Bridge, Signal
Motor, Traction
Engine, Cab
Caboose, Blizzard
Engine Markers

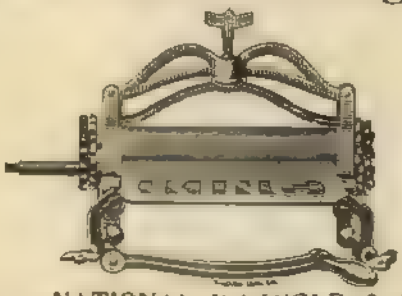
WE MAKE THEM ALL

We sell to the Jobbing trade only

Wood and Iron Frame Wringers....

HIGH GRADE

WARRANTED

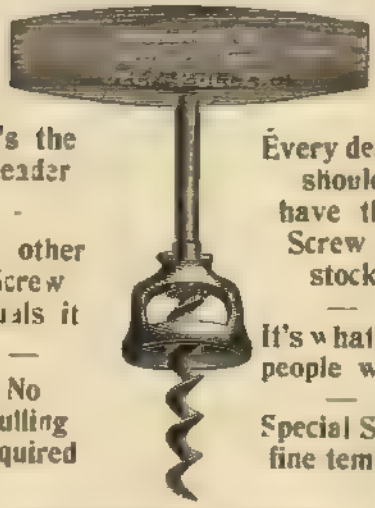


Before Placing Your Orders Write us for our PRICES and TERMS

NATIONAL WRINGER & MFG. CO., Canton, Ohio

WALKER'S

Self-Pulling Cork Screws



It's the Leader

No other Screw equals it

No Pulling required

Every dealer should have this Screw in stock

It's what the people want

Special Steel fine temper

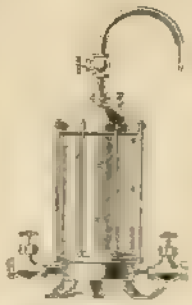
WRITE FOR CATALOGUE AND PRICES

ERIE SPECIALTY CO.

Mfrs of CORK PULLERS, CORK SCREWS, &c.

ERIE, PA., U. S. A.

Darling Self-Cleaning WATER FILTER



The Most Complete Self-Cleaning Filter in the world

In use for past three years by the best people in all cities. A good, responsible dealer wanted in every town

DARLING FILTER CO.

CLEVELAND, OHIO

Champion "Surprise"

Cream Whip and Egg Beater

Will whip fresh, sweet cream, milk, eggs, custards, without [illegible]

Family Size Retails for 25c.

Write to the makers for trade price

THE JOHN TOBIN MFG. CO.

NEWARK, N. J.

Meyers' Putz Cream Liquid Metal Polish

Unsurpassed for imparting a brilliant polish to

TRY IT

Brass Signs, Railings, Show Cases, Nickel Plate, Bicycles, Tin and Copper Ware, Household Articles

It is particularly valuable for

Harnesses and Door Trimmings

as it leaves no stain or discoloration.
Samples, advertising matter and electrotypes gratis

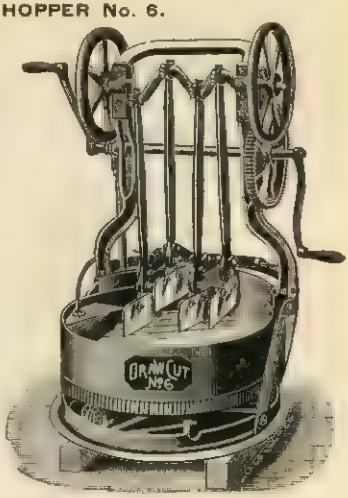
Prices and Sizes

16 pints, per dozen	$ 1 20
12 pints, per dozen	3 00
1 pint, per dozen	6 00
1/2 gallon, per dozen	10 80
12 gallons, per dozen	18 00
1 gallons, per dozen	36 00

MEYERS PUTZ POMADE CO.

124-126 High St. BOSTON, MASS.

IMPROVED DRAW-CUT MEAT CHOPPER No. 6.



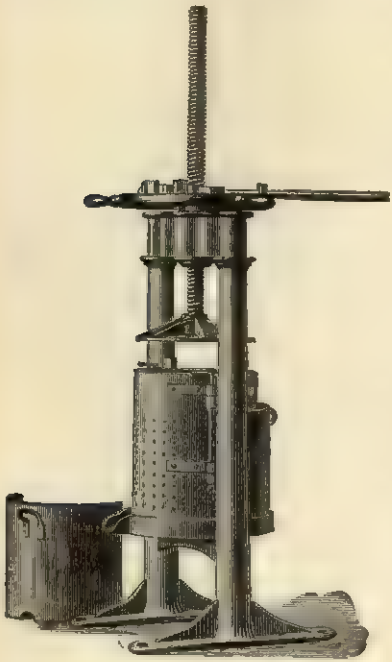
This Chopper has four knives, 11½ inches long. Block 27 inches in diameter. It will chop 30 pounds of meat in 12 minutes, as well as an experienced man can with a rocker; is easy and light for one man to run. But one knife touches the block at a time, and this, with the drawing cut, makes it run lightly.

A special feature of this chopper is the plow, which turns the meat under the knives, and mixes it thoroughly. A pulley can be put on in place of one of the fly wheels to be driven by any light power. Weight, 480 pounds.

Price.....$75 00

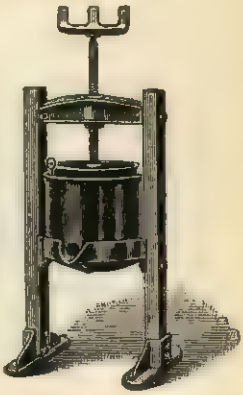
IRON FRAME LARD AND TALLOW PRESS.

This press is built wholly of iron. It is unequaled for strength, power and convenience. The hand wheel and lever in these presses is always the same height from the floor, as the screw works through the hand wheel. The colander opens with a hinge, and the shield is in two parts; by simply taking off the front part of the shield, the colander can be opened and the cheese taken out. This obviates all heavy lifting, and is very convenient.



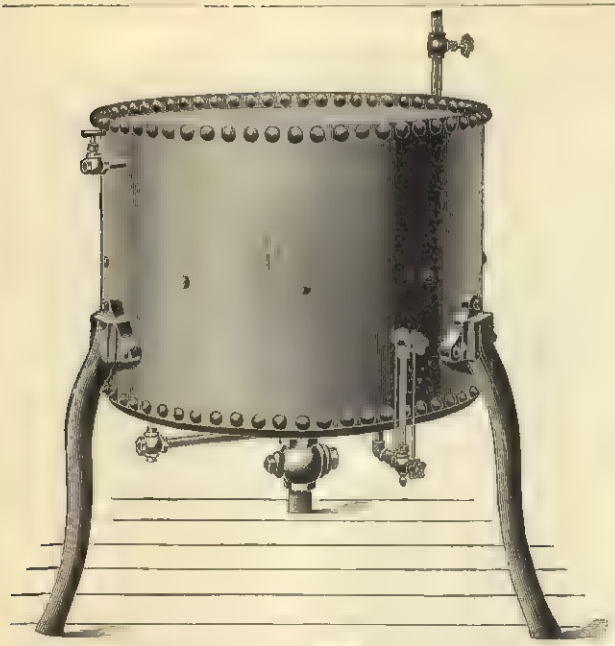
No. 1—Colander, 14 x 18 in.; weight, 480 lbs.; price, $45 00
No. 2—Colander, 18 x 20 in.; weight, 800 lbs.; price, 75 00

PITTSBURGH LARD PRESS.



The "Pittsburgh," though cheap, is thoroughly made, and durable; strong, and easily worked.

	Price.
12"; weight, 215 lbs.;	$10 00
14"; weight, 235 lbs.;	17 50
17"; weight, 325 lbs.;	28 00



WROUGHT STEEL STEAM KETTLES.

These Kettles are made throughout of steel boiler plate with double shells and bottoms, and ample steam space between. They are of full capacity as rated, and are supplied with the fittings shown in the cut.

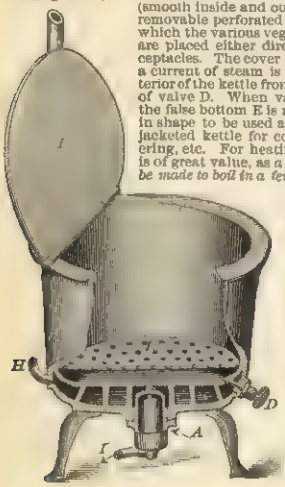
Every Kettle is tested at 150 pounds hydrostatic pressure before it leaves the shop.

Figures below given are inside dimensions.

Capacity. Gallons.	Diameter. Inches.	Depth. Inches.	Weight. Pounds.	Price.	Capacity. Gallons.	Diameter. Inches.	Depth. Inches.	Weight. Pounds.	Price.
50	28	19	465	$ 70 00	150	38	32	875	$140 00
75	28	29	570	85 00	200	44	32	1,250	175 00
100	34	26	655	105 00					

DOPP'S STEAM JACKETED KETTLES.

This Kettle is especially designed for steaming various kinds of vegetables at the same time as well as for boiling, cooking, heating water, etc. A cast iron seamless steam jacketed kettle (smooth inside and out) is provided with a removable perforated false bottom E, into which the various vegetables to be steamed are placed either direct or in separate receptacles. The cover F having been closed, a current of steam is admitted into the interior of the kettle from the jacket by means of valve D. When valve D is closed, and the false bottom E is removed, the kettle is in shape to be used as any ordinary steam jacketed kettle for cooking, boiling, rendering, etc. For heating water the valve D is of great value, as *a kettle full of water can be made to boil in a few minutes* by opening the valve D and throwing a stream of steam into the water; this, by its condensation, aided by the heat from the jacket, causes the water to boil in a remarkably short time. It is guaranteed to stand a steam pressure of 150 lbs.

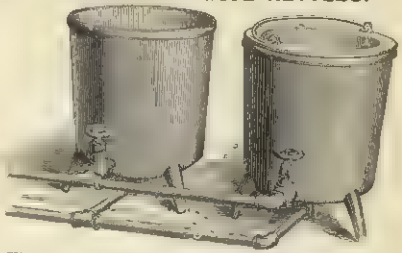


These kettles may also be provided with a balance valve steam trap as shown at A in the cut for $5 extra on list price. If so ordered, an outlet to draw off the contents can be provided.

5 gall., without Steam Trap, or Outlet	$15 00
10 gall., without Steam Trap, or Outlet	24 00
20 gall., without Steam Trap, or Outlet	38 00
30 gall., without Steam Trap, or Outlet	50 00
50 gall., without Steam Trap, or Outlet	80 00

With steam trap, $5 extra. With outlet and nipple to which faucet can be screwed, 75c. to $1.50 extra, according to size.

STEAM JACKETED GLUE KETTLES.

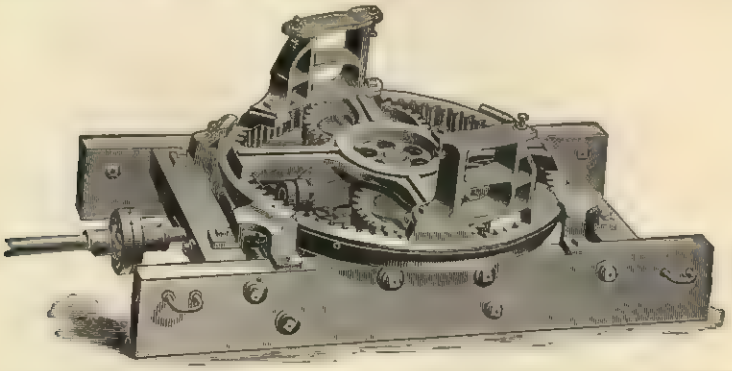


The cut represents two 1-gallon Steam Jacketed Kettles, of which as many as desired may be placed in a row for *Heating Glue Pots*. The kettle is filled with water, into which is suspended a two quart pot containing the glue as in ordinary glue pots. The Steam Jacket is provided with an automatic steam trap at the bottom, which controls the discharge of the condensed steam from the Jacket.

Price, 1-Gallon Kettle, with glue pot $5 00

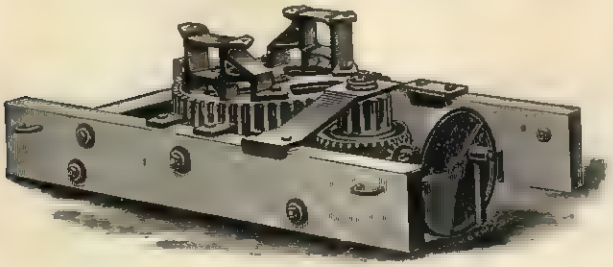
EAGLE IMPROVED TWO AND FOUR HORSE POWER.

This is a new power, built throughout to meet the requirements of heavy service; such as running cord wood saws, grinding mills and general farm machinery. It will stand the strain of four strong horses, and has a speed of tumbling rod adapting it to direct connection with most kinds of farm machinery without any intermediate gearing. (Power Feed Cutters and Grain Mills are generally speeded too fast for ordinary horse powers without the use of a speed-jack.)



Price of Four Horse Power—with our tumbling rod, two double levers, ground block and two lead poles, $70 00 Weight 900 lbs This power has two speeds, 28 revolutions and 156 revolutions to one round of horses
Price of Two Horse Power—with two levers, two lead bars, two tumbling rods, three knuckles and ground block, $50 00. Weight 600 lbs One speed. 28 revolutions to each round of horses.

EAGLE IMPROVED PUMPING POWER.

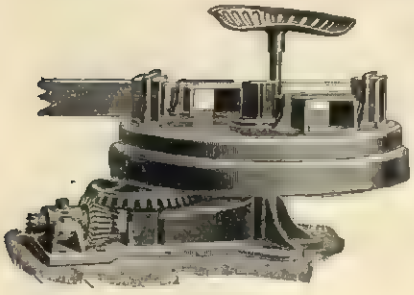


This is a new construction throughout, designed especially for direct attachment to deep well pumps, but it is also admirably adapted to well drilling machinery and other work requiring especially slow speed. The face plate can be detached and the knuckle and tumbling rod put on when desired to use the power for other purposes than pumping.

Price, with balanced crank, wrist pin, stub end of pitman, arranged for three different strokes (4, 6 and 8 inches), two levers, two lead poles, one tumbling rod and knuckle, and ground block, $35 00. Weight, 450 pounds.

COULD'S IRON POWER.

For pumping and general uses.

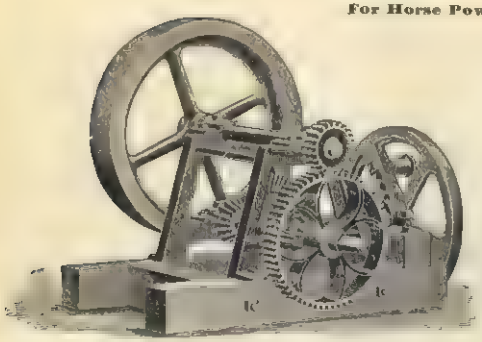


The illustration shows a very powerful Double Geared Horse Power for one or two horses, with covered internal master gear, two babbited 1¼ inch journal boxes, driver's seat, pole and all details complete. With usual speed of horse the tumbling shaft makes about 50 revolutions per minute. For driving triple acting Suction and force pumps for irrigating this power surpasses all others. It can be used for all other purposes where a horse power would be convenient.

Price, adapted to one horse.	$90 00
" " " two horses.....	93 00
10 feet of tumbling shaft, with face plate, extra .	10 00

IMPROVED PUMPING JACK.—Style A.

For Horse Powers.



Our Improved Pumping Jack is designed to be operated in connection with our "B" two-horse and other powers. This jack has two sets of gears—one to regulate the stroke of pump, and the other a high gear, with heavy fly wheel to carry the pitman over the center, and causing all parts to work smoothly. It is a first-class outfit for deep wells Weight, 225 pounds. Price, $25.00

UNIVERSAL COUPLINGS.

For Horse Power.

The bearings are of chilled iron, running in steel rings, making almost perfect anti-friction bearings They are provided with chambers to be packed with waste, and when once well oiled will run for several months without heating. Price, each, $2.00.

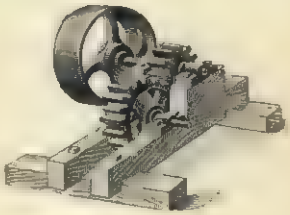
WOOD FRAME SPUR JACK.

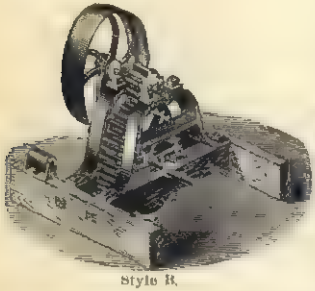
Our Spur Jacks transmit the power at right angles with the tumbling rod. Cut at right represents wood frame jack for one and two horse power Same style is made for our four horse power.

Two Horse Power Wood Frame Jack increases speed of tumbling rod 2¼ times Price, $10 00.

Four Horse Power Wood Frame Jack increases speed of tumbling rod 2¼ times Price, $18.00.

Pulleys not included.





Style B.

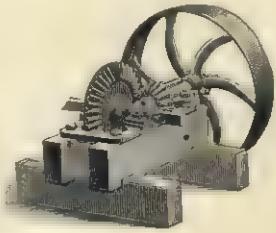
IRON FRAME SPUR GEARED SPEED JACK.—Style B.

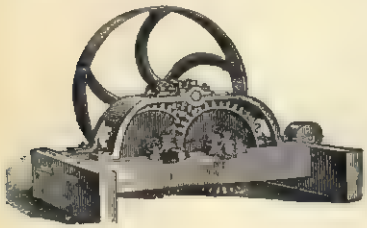
This jack for two and four horse powers is geared so that the pulley runs three times as fast as the tumbling rod. It can be attached to all kinds of feed mills, feed cutters, wood saws, or other fast speed machines. Weight, 150 pounds. Price, without pulleys, $15 00. See list of pulleys elsewhere

BEVEL GEARED JACK.

Our Bevel Geared Jack, is adapted to the same powers as the Spur Jack, but transmits motion in a line with the tumbling rod. It gives its band wheel nearly three revolutions (2⅞) to one of tumbling rod.

Price, without pulley $10 00



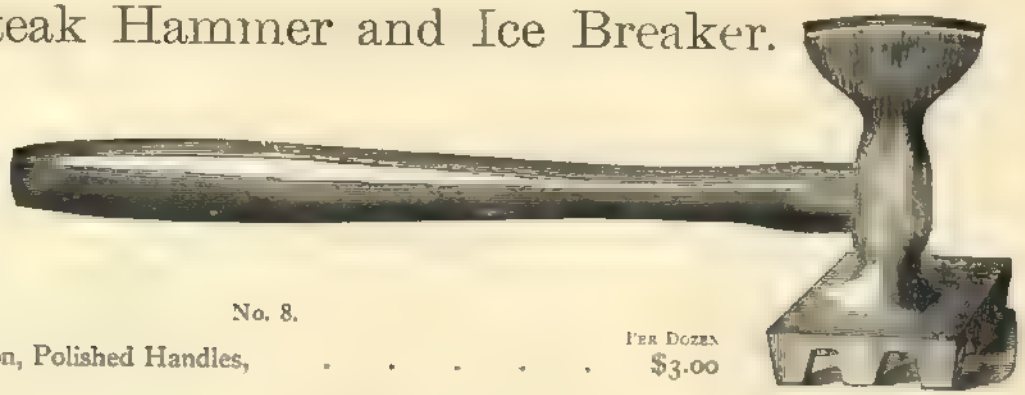


COMPOUND SPUR GEARED JACK.

This jack increases the speed three times, or nine revolutions of pulley to one of tumbling rod. Sufficiently strong for four-horse power, yet perfectly adapted for lighest uses.

Price, without pulley $25 00

Steak Hammer and Ice Breaker.



No. 8.

No.		Per Dozen
8.	Tinned Iron, Polished Handles,	$3.00

Half Dozen in a Box.

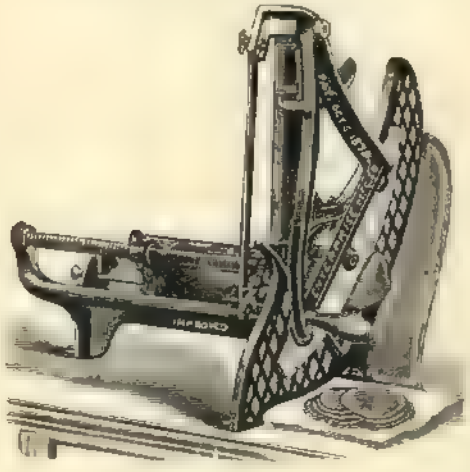
Ice Tongs.

Nos. 1, 2 and 3.

No. 6.

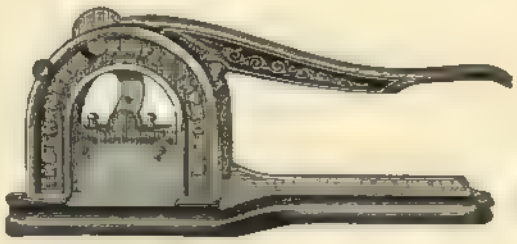
		Per Dozen
1.	Opens 14 inches, Steel Pointed, Family Size,	$16.00
2.	Opens 17 inches, Steel Pointed,	20.00
3.	Opens 20 inches, Steel Pointed, Wagon Size,	26.00
6.	Opens 14 inches, Bale Top, Family Size,	10.00

Smoked Beef Cutter.



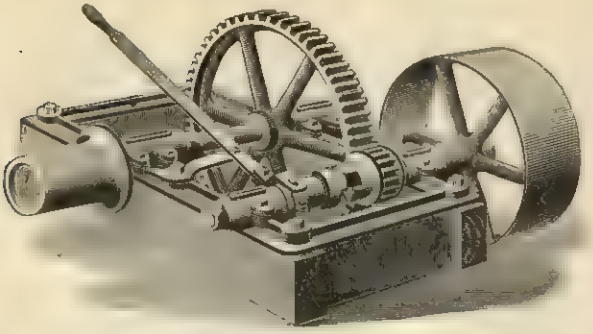
Enterprise Improved, . . . Each $7.50

Tobacco Cutter.



Enterprise Improved, . . . 18.00

CALDWELL CAR PULLER,
Self-Contained on Iron Frame.



The illustration shows a new Car Puller, designed to take up very little space. It will pull from one to eight cars, according to their weight and the condition of the track. The machine is shipped complete, ready to set in place. Price does not include the wooden frame.

The Bearings are babbitted, and are self-oiling. The Drive Pulley should have a speed of 120 to 150 revolutions per minute.

Price includes Drive Pulley, 24 inches by 11 inches; other sizes can be furnished at different price

Price $100 00

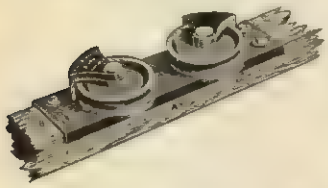
CAST IRON ENDS,
For Conveyor or Boxes.

For 6 in. Conveyor, each		$2 00
For 9 in.	"	3 00
For 10 in.	"	3 25
For 12 in.	"	3 50
For 16 in.	"	5 00

INDICATOR STAND.

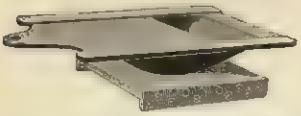
Price, including Stand and Hoop with figures and letters, $6 00.

DOUBLE CAR PULLEY SHEAVE ON IRON FRAME.



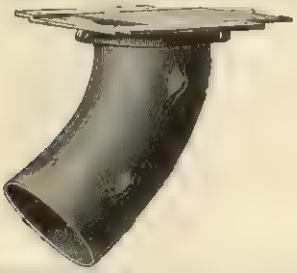
This Double Sheave is very heavy and is placed in the building somewhere near the track, to guide the rope in either direction from car puller to car. Diameter of Sheaves, 9¾ inches; dimension "A," 38 inches; dimension "B," 9 inches. Price, $15 00.

BIN AND HOPPER BOTTOMS.



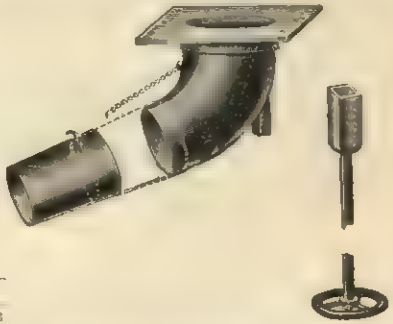
Size, inches	10	12	14	18	24
Price, with Slide	$ 7 00	$ 8 50	$10 50	$14 00	$20 00
Price with Slide and Revolver	8 00	10 00	12 00	16 00	22 00

CAST IRON SWIVEL SPOUT AND GATE.



Inside diameter of Spout.	6	8	10	12	16
Size of Head Plate	12 x 12	13 x 13½	15 x 16	18 x 18	23 x 23
Price, either above patterns	$6 00	$8 00	$10 00	$12 00	$16 00

TURN SPOUT FOR HEAD OF ELEVATOR.

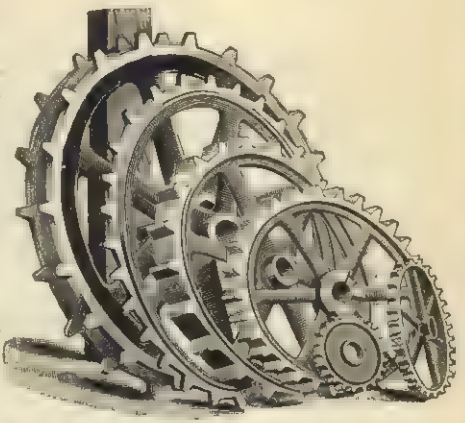


Sockets for Turn Spouts, $1.00 each.

EWART DETACHABLE LINK BELTING AND SPROCKETS.

PRICE LIST OF BELTING.

No.	PRICE PER FOOT. All Plain Links.	All Attach't Links.	With Attach'ts at 1in Pts.	Links per Foot.	Working Strain in lbs.	Equivalent in Leather Belting.
25	$0 08	19	11	13.3	75	1 in. single.
32	08	17	11	10.4	150	1½ " "
33	07	17	10	8.6	200	2 " "
34	08	17	11	8.6	225	2½ " "
35	08	15	11	7.4	250	2½ " "
42	09	16	12	8.8	300	3 " "
45	09	16	12	7.4	350	3½ " "
51	11			10.4	375	3½ " "
52	12	17	13	8.	500	4 " "
56	12	17	13	7.4	450	4 " "
57	12	20	14	5.2	600	5 " "
62	16	21	18	7.3	650	6½ " "
66	16	21	18	6.	700	6½ " "
67	16	21	18	5.2	700	7 " "
75	18	22	19	4.6	750	7½ " "
77	18	22	19	5.2	800	8 " "
78	21	28	23	4.6	1000	10 " "
88	25	35	28	3.	1200	12 " "
85	27	35	30	3.	1300	9 " double.
88	25	35	30	4.6	1200	8 " "
93	30	40	35	3.	1600	10 " "
95	32	40	35	3.	1600	10 " "
108	40	42	41	4.	1800	12 " "
108	40	45	42	2.55	2000	13 " "
114	50	60	55	3.66	2000	13 " "



The above prices of attachments are for A1, A2, A3 C1, E1, F2, G1, G6, H1, H2 K1, K2, M1, M3, R1, R3, S1, and S2, and as they are now made for the respective chains. Other attachments will be furnished at special prices.

PRICE LIST OF SPROCKETS.

No. 25.

Pitch Diam. Ins.	No. of Teeth	Price.
1⅛	5	$0 75
2	7	80
2¼	8	85
2⅝	9	90
3⅛	11	1 00
3½	12	1 05
3⅞	13	1 10
4	14	1 10
4⅛	15	1 15
4¾	16	1 20
5	17	1 25
6	21	1 45
6⅝	22	1 50
7⅛	26	1 70
8	29	1 80
10	35	2 10
10¾	36	2 15
12	42	2 40
13¾	48	2 70
15	52	2 90
16	56	3 10
17¼	60	3 30
18¾	64	3 50
24	84	5 00

No. 32.

2	5	$0 80
2⅜	6	85
2¾	7	90
3	8	95
3⅜	9	1 05
3⅝	10	1 10
4⅛	11	1 15
4¾	13	1 25
6	16	1 45
8¼	22	1 80
8⅞	23	1 95
9	24	2 05
9¼	25	2 15
12	31	2 60
14	38	2 90
16	44	3 20
16⅞	45	3 40

Nos. 33 and 34.

Pitch Diam Ins.	No. of Teeth	Price.
3	7	$0 95
4	9	1 15
4⅜	10	1 25
5⅛	12	1 45
5⅝	13	1 70
6⅜	15	1 80
7	16	1 90
8¼	19	2 00
9⅝	22	2 25
12	27	2 60
14¼	32	3 05
15¾	34	3 20
16	36	3 40
18¼	41	3 90
24	54	5 30

Nos. 35, 45, 55.

2⅛	5	$0 90
3	6	1 00
3¼	7	1 10
4⅛	8	1 25
4¾	9	1 35
5	10	1 45
5¾	11	1 55
6	12	1 65
7	13	1 75
7⅛	14	1 85
8⅛	16	2 05
8¾	17	2 15
9¼	18	2 25
10	19	2 35
10¾	20	2 45
11⅜	22	2 70
12	23	2 80
12¾	24	2 90
13	25	3 00
14¼	27	3 60
15¾	30	3 70
16	31	3 70
17	32	3 90
18¼	35	4 20
19	36	4 65
20	39	4 65
21	42	5 00
22¾	44	5 25
23½	45	5 40

Nos. 35, 45, 55.

Pitch Diam Ins	No. of Teeth	Price.
28	54	$7 00
30	58	7 50
36	69	10 50
42	82	14 00

No. 42.

3	7	1 10
3⅜	9	1 20
4¾	11	1 35
5¾	13	1 40
6¼	14	1 60
6	18	1 95
8¾	19	2 00
9¾	22	2 25
10¾	24	2 40
11¾	27	2 70
14	32	3 20
15½	36	3 50
18	41	4 00
20	46	4 50
24	55	5 75

No. 51.

1¾	5	0 90
2½	7	1 00
4	11	1 20
4¾	12	1 30
5	14	1 40
6¼	17	1 60
8	22	2 00
10	27	2 85
10¾	29	2 90
12	33	2 75
14	39	3 20
16	45	3 70
18¾	50	4 10

No. 52.

4	8	1 20
5	10	1 45
6	13	1 65
7	15	1 85

No. 52.

Pitch Diam. Ins	No. of Teeth.	Price.
8	17	$2 05
9	19	2 30
10	21	2 50
13	27	3 15
14½	30	3 50
16⅝	34	4 00
18	38	4 50
20	42	5 00
22	46	5 45
24½	51	6 15
26	55	7 00
30½	64	8 00

Nos. 57, 67, 77.

4½	6	1 85
5½	7	1 50
6	8	1 70
7½	10	2 10
8⅝	12	2 40
9½	13	2 80
11	15	3 40
12¾	17	3 85
14	20	4 80
15½	22	5 15
17	24	5 60
18¾	25	5 90
20	28	6 75
22	30	6 25
26	36	7 75
28	38	8 25
30	41	9 00
36	49	12 00
38½	52	13 50

No. 62.

4¼	8	1 40
5	9	1 50
7¾	14	2 00
8	15	2 10
8½	16	2 20
10¾	20	2 75
11	22	3 00
12	23	3 20
16	30	4 25
18	34	4 85

No. 62.

Pitch Diam Ins	No. of Teeth	Price.
20	38	$5 45
23	43	6 20
24	45	6 50
26	49	7 50
30½	58	9 00

No. 66.

5	8	1 60
7	11	1 85
7½	12	2 00
9½	13	2 25
10½	16	2 60
12½	19	3 10
16¾	25	4 25

Nos. 75, 78, 88.

5	6	1 65
6½	8	2 00
8¼	10	2 40
10	12	2 80
12	15	3 45
16	20	4 65
18½	22	5 15
20	24	5 60
21	25	5 90
22½	27	6 40
24	29	6 90
24¾	30	7 15
28½	34	8 55
33½	40	11 40
37	44	12 80
38	46	14 00
42	49	16 50

No. 83.

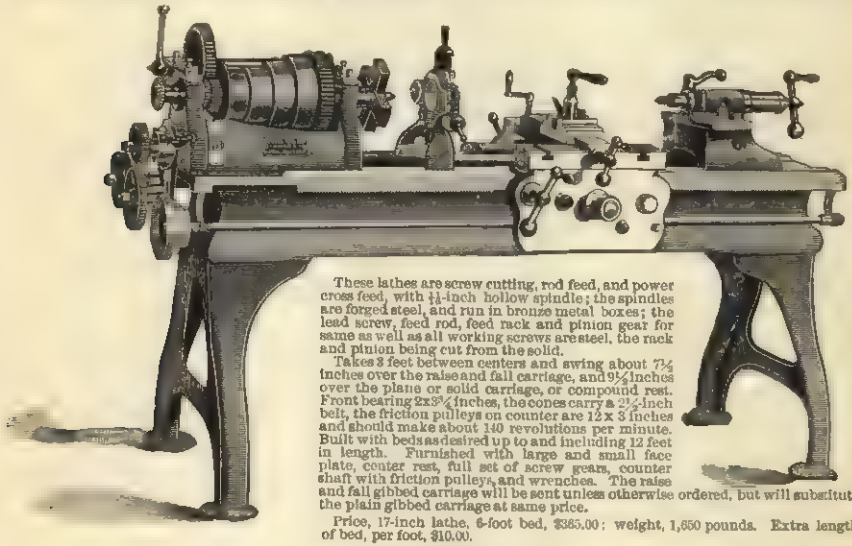
All Double Teeth

12	18	3 50
16	26	4 50
20	32	6 00
24	38	6 50
28½	44	8 50
30	48	10 00
34	54	12 00
41	64	15 00

17-INCH ENGINE LATHE.

Rise and Fall Rest, Screw-Cutting Gear, Power Cross Feed.

We make a leading specialty of these first-class Engine Lathes. They are among the best tools now in the market, and in some essentials are not equaled by any other makes. All moving parts have extra long bearings, and all sliding parts are scraped. No emery is used on any part. The spindles are made from a high grade of hammered steel. Lead screws and feed rods are of best steel, as well as all the small gear, studs and screws. The racks are cut from solid steel. All lathes above 15-inch have gibbed carriages, with T slots, to hold work while boring, etc.

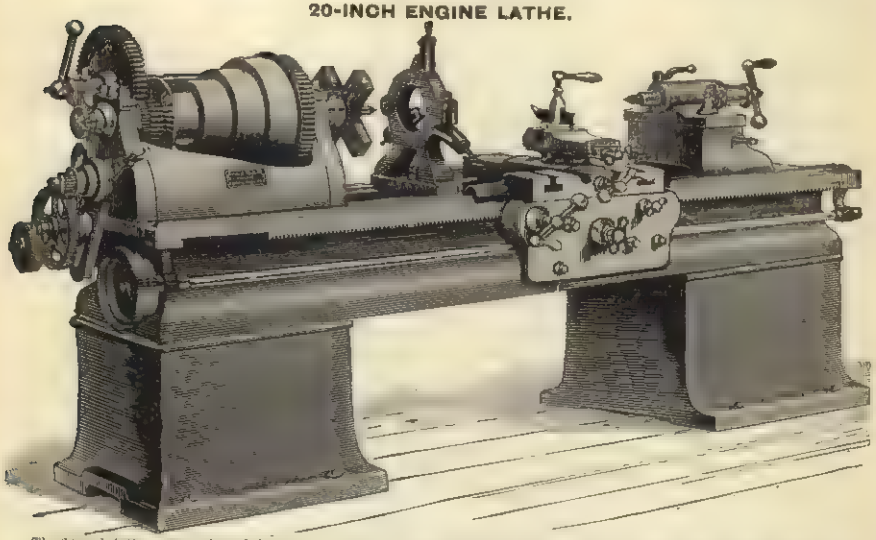


These lathes are screw cutting, rod feed, and power cross feed, with 1¼-inch hollow spindle; the spindles are forged steel, and run in bronze metal boxes; the lead screw, feed rod, feed rack and pinion gear for same as well as all working screws are steel, the rack and pinion being cut from the solid.

Takes 8 feet between centers and swing about 7¾ inches over the raise and fall carriage, and 9¼ inches over the plane or solid carriage, or compound rest. Front bearing 2x3¾ inches, the cones carry a 2½-inch belt, the friction pulleys on counter are 12 x 3 inches and should make about 140 revolutions per minute. Built with beds as desired up to and including 12 feet in length. Furnished with large and small face plate, center rest, full set of screw gears, counter shaft with friction pulleys, and wrenches. The raise and fall gibbed carriage will be sent unless otherwise ordered, but will substitute the plain gibbed carriage at same price.

Price, 17-inch lathe, 8-foot bed, $365.00; weight, 1,650 pounds. Extra length of bed, per foot, $10.00.

20-INCH ENGINE LATHE.



The 20-inch lathes swing about 1[illegible]¼ inches over the carriage, front bearing to the spindle is 2¼ x 1½ inches, the cones carry a 2¾ inch belt, the friction pulleys on countershaft are 14 x 3¾ inches and should make about 125 revolutions per minute, the carriage has a bearing of 26 inches in length on the ways, they will be built with beds as desired up to and including 20 feet in length. The 8-foot bed turns 4 feet between centers.

Price of 20-inch lathe, 8-foot bed, $485.00; weight, 2,600 pounds. Extra length of bed, per foot, $14.00.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

HOSE PIPES AND NOZZLES.

Fig. 314.

PLAIN HOSE PIPE, SOLID TIP.

Size, inches	¾	1	1¼	1½	2	2½	2½
Length, inches	8	9	10½	10½	11	12	20
Per Dozen	$7.00	9.00	15.00	18.00	30.00	48.00	78.00

Fig. 315.

PLAIN, WITH SCREW TIP.

Size, inches	¾	1	1¼	1½	2	2½	2½
Length, inches	8	10	13	13	14	15	20
Per Dozen	$8.00	10.00	20.00	25.00	39.00	75.00	96.00

Fig. 316.

WITH COCK ON LARGE END.

Size, inches	¾	1	1¼	1¼	1½	1½	2	2	2½	2½	2½
Length, inches	8	12	12	15	12	15	12	20	15	24	36
Per Dozen	$13.00	20.00	40.00	45.00	55.00	60.00	80.00	130.00	150.00	200.00	250.00

Fig. 317.

IMPROVED SWIVEL HANDLE PLAY PIPE.

THE advantages of a Swivel Handle Pump are: *First*—That the handles are placed in such shape as to conform to the position of the pipeman without cramping the hand or arm into an unnatural position. *Second*—It often happens that the hose turns two or three times over when the water is forced through it; if the handle did not swivel so as to allow the pipe to rotate, it would wrench it from the pipeman and subject him to danger and the pipe to harm. We also make a loop handle pipe which will admit the arm whenever the arm becomes cramped. The change rests the hand and arm, and enables the pipeman to endure service for a much longer time.

Size, inches	2	2½	2½	3
Length	20	24	30	36
Wound and Painted, each	$9.00	$11.00	$12.00	$15.00
Plain Brass, each	7.50	9.50	11.00	13.50
Wound and Painted, without handles, each	6.50	8.50	10.00	12.50
Rubber Tube, Swivel Handles, each			15.00	18.00
Leather Tubes, Swivel Handles, each				18.00

Fig. 318.

MYSTIC COMBINATION NOZZLE.

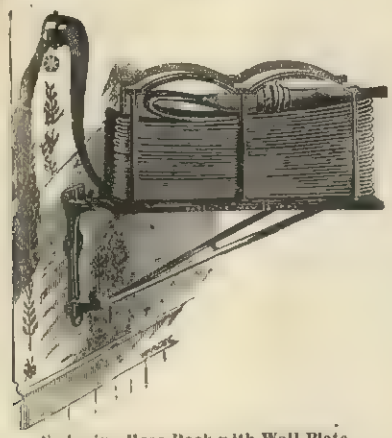
Mystic Combination Spraying and Regular Nozzle ¾ in., per doz. $ 9.00
" " " " " " 1 " " 15.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA & Bro. Prop'r

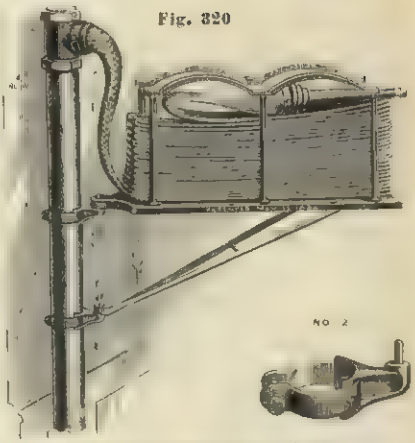
SWINGING HOSE RACKS AND REELS.

Fig. 319



Swinging Hose Rack with Wall Plate.

Fig. 320



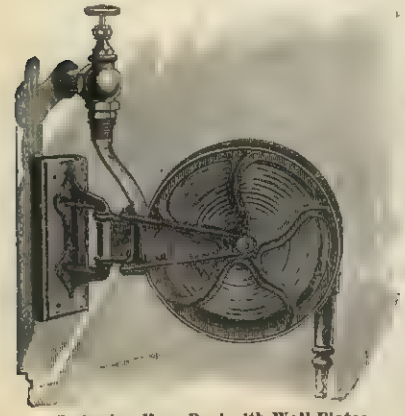
Swinging Hose Rack with Clamp.

STYLE OF FINISH	EACH. Nos. 0 and 00	Nos. 1 and 2	Nos. 3 and 4	No. 5	No. 6
Japn'd "Red," with Wall Plate	$5.00	$6.00	$7.00	$7.50	$8.00
" " " Pipe Clamp	5.40	6.40	7.40	7.90	8.40
" "Gold," with Wall Plate	5.50	6.75	7.75	8.75	8.75
" " " Pipe Clamp.	6.00	7.25	8.25	9.25	9.25
" White with Gold Stripe, wall plate	5.50	6.75	7.75	8.75	8.75
" " " with pipe clamp.	6.00	7.25	8.25	9.25	9.25
Bronze in Gold, with Wall Plate	5.00	6.00	7.00	7.50	8.00

STYLE OF FINISH.	EACH. Nos. 0 and 00	Nos. 1 and 2	Nos. 3 and 4	No. 5	No. 6
Bronzed in Gold, with Pipe Clamp	$5.40	$6.40	$7.40	$7.90	$8.40
Nick P'ltd, polished, with Wall Plate	8.00	9.50	11.00	13.00	13.50
" " " " Pipe Clamp	9.00	10.50	12.00	14.00	14.50
Brass " " " Wall Plate	8.00	9.50	11.00	13.00	13.50
" " " " Pipe Clamp	9.00	10.50	12.00	14.00	14.50
Solid Brass " " " Wall Plate	13.00	16.00	19.00	24.00	24.00
" " " " Pipe Clamp	15.00	18.00	21.00	26.00	26.00

When ordering Racks with Pipe Clamps be sure and give size of pipe they are to fit. If not standard size pipe, you must give the outside diameter. All Racks Japanned Red, unless otherwise ordered.

Fig. 321



Swinging Hose Reel with Wall Plates.

CAPACITY OF RACKS.

For Unlined Linen Hose.

Size of Hose.	Full Capc'ty
*No. 0, for 2 inch.	50 feet
" 00, " 2½"	50 "
* " 1, " 2 "	100 "
" 2, " 2½"	100 "
* " 3, " 2 "	150 "
" 4, " 2½"	150 "

For Rubber Lined Linen or Mill Hose.

Size of Hose.	Full Capc'ty
*No. 3, for 2 inch.	50 feet
" 4 " 2½"	50 "
* " 5 " 2	100 "
" 6 " 2½	100 "

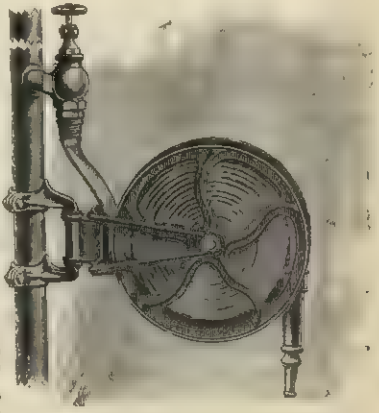
*For 1¼ and 1½ in. Hose, when specified, we will furnish a Narrow Bed Plate Nos. 5 & 6 will carry heavy hose of almost any make in 50 ft. lengths.

Japanned Red with Wall Plates

Unlined Linen.	Each
A1, for 50 ft., 1½ inch.	$6.00
A2 " 50 ft., 2 "	6.00
A3 " 50 ft., 2½ "	6.00
B1 " 100 ft., 1½ "	7.00
B2 " 100 ft., 2 "	7.00
B3 " 100 ft., 2½ "	7.00
Lined.	
C1, for 50 ft., 1½ inch.	8.00
C2, " 50 ft., 2 "	8.00
C3, " 50 ft., 2½ "	8.00

WITH PIPE CLAMPS.

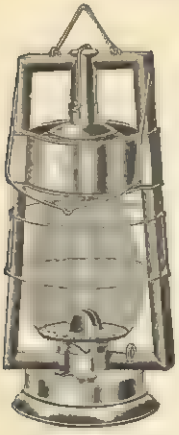
Fig. 322



Swinging Hose Reel with Pipe Clamp.

Pipe Clamps will be furnished with Reels, if desired, (for attaching Reels directly to water-pipe, at an additional cost per Reel of 40c

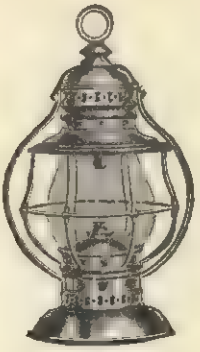
FIREMEN'S LANTERNS.



No. 0, Round Tube Bottom Lift Tubular.

With Water Shield.

Price, Brass .....per doz $48 00
Add $12 00 per dozen to price, if Nickle Plated.

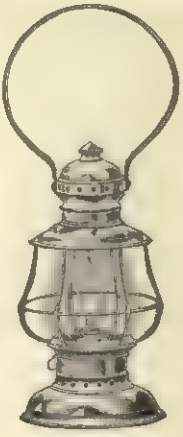


No. 30, Fireman's—Ring in Top.

Lard Oil.

Price, Brass .....per doz. $44 00
" Nickle Plated " 56 00

CONDUCTOR'S LANTERNS.



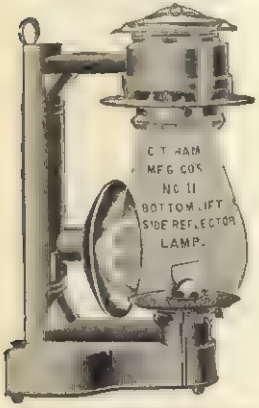
No. 3.

Lard Oil.

Price, Brass..... .....per doz $66 00
" Nickle Plated " 72 00

IMPROVED BOTTOM LIFT SAFETY TUBULAR LAMPS AND LANTERNS.

Side Reflector Lamp.



No 11 Side Reflector Lamp. No burner, ⅞-inch wick No 0 globe, 5-inch glass silvered reflector.

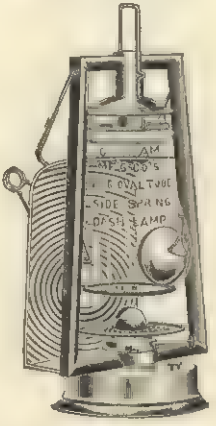
No 12 Side Reflector Lamp. No. 2 burner, 1-inch wick, No 1 globe, 6-inch glass silvered reflector

Having our patent wind break, same as we use on our street lamps, they will stand the wind in exposed places without smoking or blowing out. They produce a very strong light. Can be filled, lighted or trimmed without removing the globe. Packed half dozen in a case.

Price, No. 11 Lamp, tin, per doz. $15 00; japanned $16 00.

No 12 Lamp, tin, per doz. $19 00; japanned, $20 00.

Dash Board Lamp

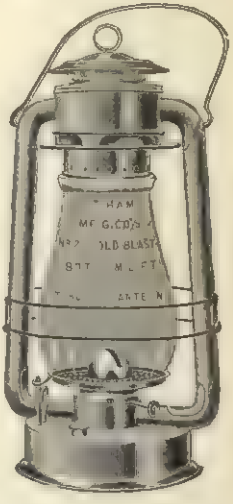


Cut shows No. 15 dash lamp, raised for lighting or trimming. Takes ⅞-inch wick; No 17 takes 1-inch wick.

The tin reflector has a circular corrugation, producing a powerful reflection of the light, much increased by the aid of the "bull's eye" blown in the globe. The burner is securely locked. The oil pot is retinned, preventing leakage. The light will not jar out while in position on the dash, and is not affected by the wind. Can be used as a dash lamp, reflector lamp to hang on the wall, or as a common hand lantern. Packed in cases of half dozen each

No. 15, oval tube, japanned, per doz., $13 00
No. 17, round tube, per doz..... 19 00

No. 2 Mill Lantern.

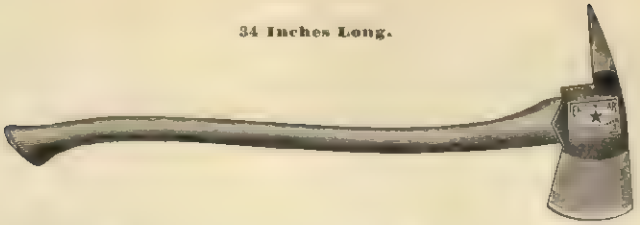


No 2 burner, 1-inch wick, No 1 globe. This lantern is built on the style of our globe street lamps, shown on preceeding page. It is specially adapted to use in strong draughts, and makes a powerful light.

Price, per dozen..... $16 00

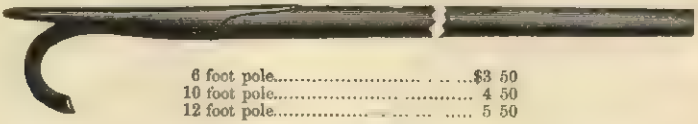
FIRE AXES.

34 Inches Long.



No. 3, Common, per dozen $30 00
No. 4, Keen Cutter, per dozen 30 00

FIRE HOOK.



6 foot pole..... $3 50
10 foot pole..... 4 50
12 foot pole..... 5 50

STEEL CROW BARS.

No. 1, 1 x 45 inches, painted..... $1 00; finished bright..... $4 00
No. 2, 1⅛ x 55 inches, painted..... 1 50; finished bright..... 5 00

PULLING DOWN HOOKS.

Made of best Norway Iron.

Price of Hooks, each..... $12 00
Pull Down Ropes and Chain..... 8 00

RUBBER FIRE BUCKETS.

Per dozen.....$24 00

GALVANIZED FIRE BUCKETS.

Flat Bottom.

10 quart, per dozen..... $4 50
12 quart, per dozen..... 5 00
14 quart, per dozen..... 5 50

These buckets are put together in the black, after which they are galvanized.

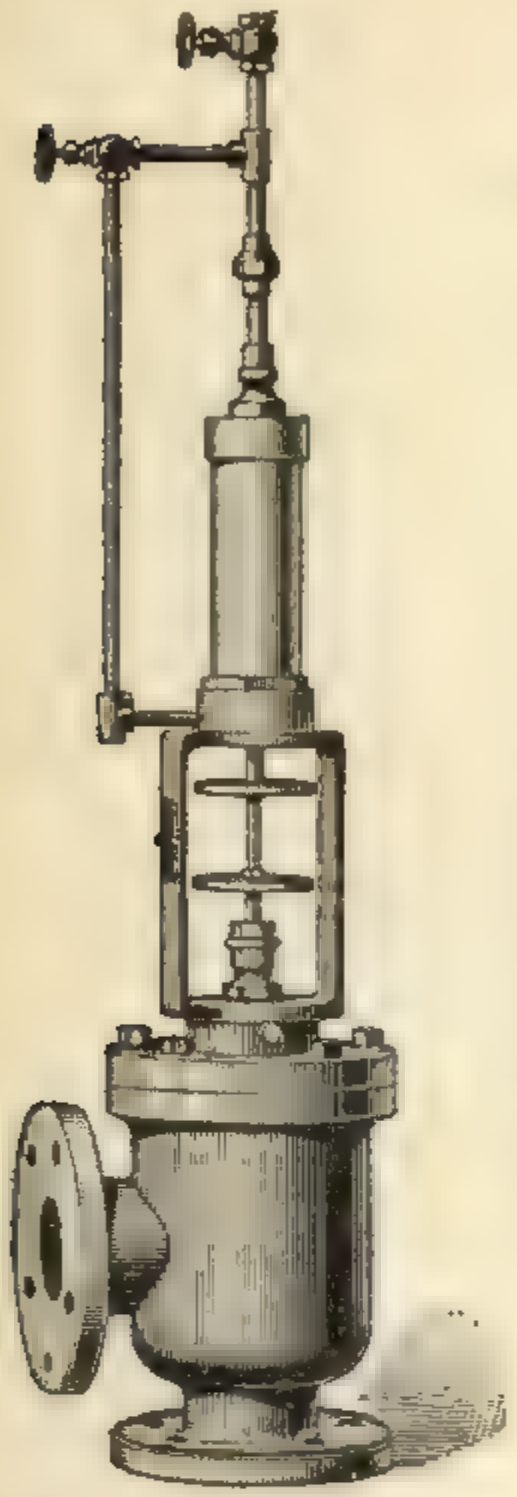
THE ROUND BOTTOM BUCKET is intended to sit in a rack, or to be hung on a hook, to be used in case of fire only. It will not stand alone, and cannot be used by the workman for any other purpose.

GALVANIZED FIRE BUCKET.

Round Bottom.

14 quart, per dozen $7 50

FISHER PUMP GOVERNOR.

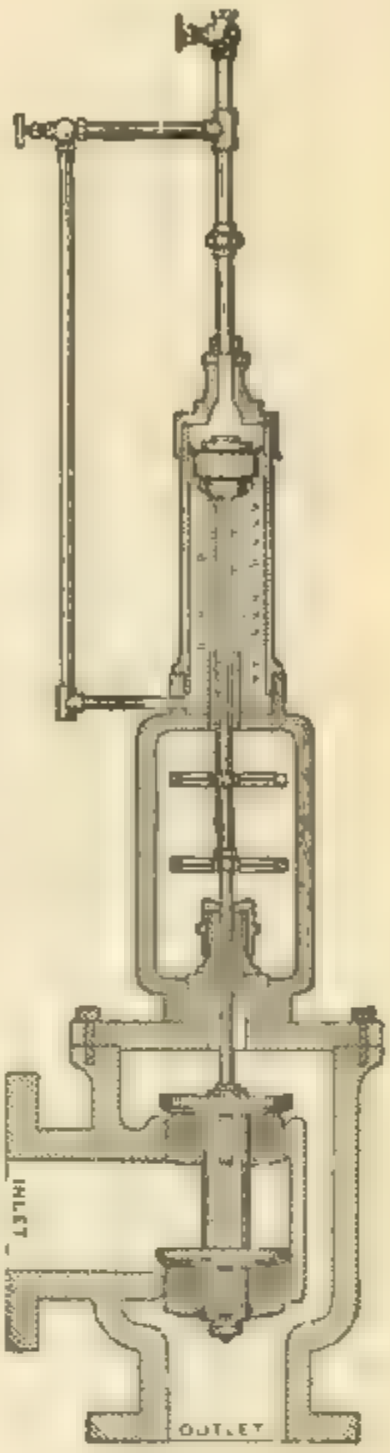


It is simple in construction; strong and durable; works automatically; requires no attention; saves labor and coal.

It is guaranteed to change speed of engine on a variation of two pounds' pressure in the main. Is very sensitive, but positive in its action. Prevents over pressure and shock or jar. Saves bursting mains or hose, and relieves the engineer of the constant care of the throttle.

It is an ornament to the engine room.

To attach, connect the Governor in steam pipe, between steam chest and throttle valve, and as close as possible to steam chest, so as to admit live steam at branch inlet to double unbalanced valve. The steam raises this valve, fills the shell and passes to steam chest below. Tap water main, or pipe, near pump, and with gas pipe, connect to top of pipe work on Governor. This will bring water pressure on top of piston in cylinder. This will then give the upward pressure of the steam on valve stem, and downward pressure of water on piston rod, which can be readily regulated by screwing, up or down, on regulating device in yoke, to any pressure desired. Full directions sent with every Governor.



PRICE LIST.

Pipe connection,	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Price, screwed,	$25 00	27 50	30 00	35 00	42 50	50 00	58 00	.....	.....	.....	.....	.....
Price, flanged,	.....	.....	.....	.....	.....	$50 00	60 00	75 00	87 50	100 00	125 00	150 00

FISHER GRAVITY GOVERNORS.

For Elevated Open Tanks.

(Not Illustrated. Send for Printed Matter.)

This type of Governor is made for "Tank-on-roof" systems of Hydraulic Elevators, and other purposes They automatically control the steam pump, and the water can be KEPT AT ANY HEIGHT DESIRED IN TANK. There can be no overflow of tank, and the pressure will be uniform.

They are very simple in construction, readily understood, and when once regulated, require no further attention.

They do away with floats and float valves, cords, cables, pulleys, butterfly valves and similar devices, that require constant care and adjustment. The Governor is in the pump room, under the eye of the engineer. By simply closing a small globe valve the pumps can be used for fire, or other purpose, and the Governor will control the pump at pressure desired.

In ordering, give the height of tank above steam pump, and if pump is to be used for other purposes than filling of tank, give steam and water pressures that will be carried.

PRICE.

1 inch, screwed	$40 00	2½ inch, flanged	$ 70 00
1¼ inch, screwed	45 00	3 inch, flanged	85 00
1½ inch, screwed	52 50	3½ inch, flanged	97 50
2 inch, screwed	60 00	4 inch, flanged	110 00
2½ inch, screwed	68 00	5 inch, flanged	135 00

Flanges, bolts and gaskets, complete, are furnished with the flanged pattern Governors.

A Sled that Steers

Absolutely the Best

Write for our Sled Catalog and Price List

Flexible Flyers
Flyer Sleighs
Flyer Coasters

S. L. Allen & Co.

Philadelphia

SELL SLEDS?

Here's a line of **Sleds** that have more "talking points" than any other sleds ever built. The knees and runners are made of soft steel tubing. These sleds are as light as wood and about six times as durable. A boy can break one up if he wants to and uses an ax, but ordinary wear has no effect whatever.

A boy would rather have a "**Youth's Companion**" or a "**Coaster**" sled than any other kind. They are handsome and strong, and the round runner makes them faster than any other sled—less running surface, less friction.

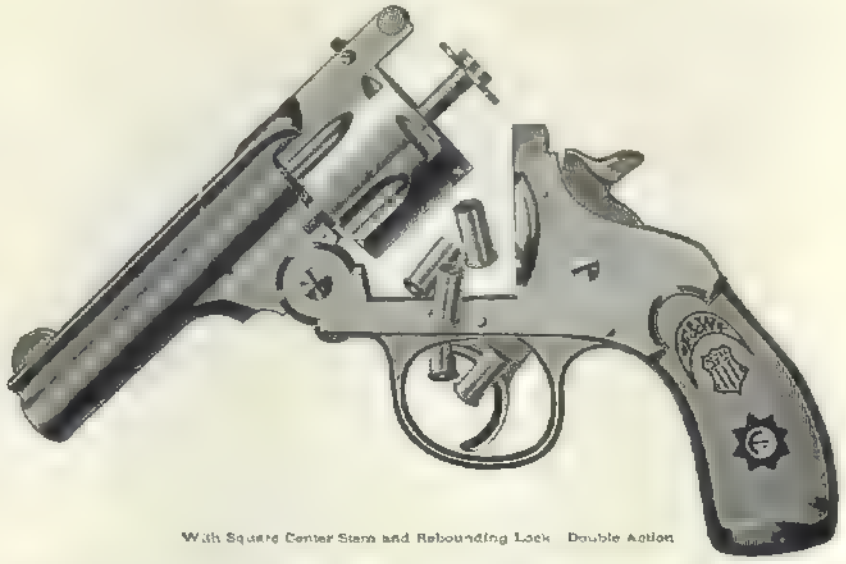
You can sell more of these sleds and sell each one quicker than you can any other, and every boy to whom you sell will be a living, talking advertisement for you.

Write for Circulars and Prices to

RUMSEY MFG. O., ∴ Detroit, Mich.

Revolvers.

Forehand Arms Co. Automatic



With Square Center Stem and Rebounding Lock. Double Action.

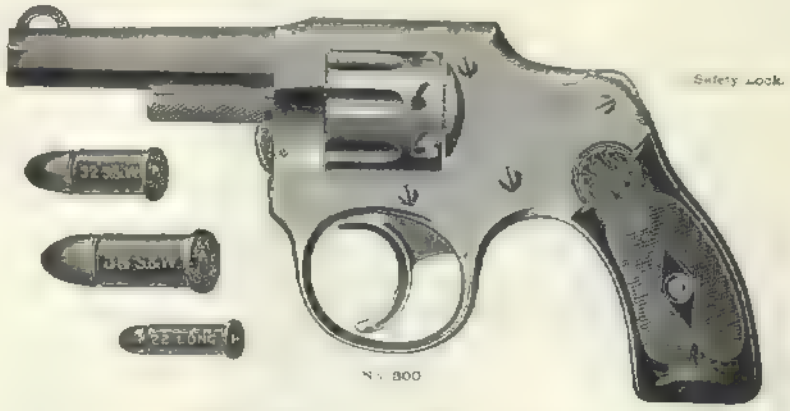
No.	DESCRIPTION	[illegible]
332	Automatic, 32 Caliber, S. & W., Center Fire, Nickel Plated and Rubber Stock, 6 Shot, 3½ inch Barrel. Weight 17 oz.,	[illegible]
332 B	Same description as No. 332, but Blued Finish,	[illegible]
338	Automatic, 38 Caliber, S. & W., Center Fire, Nickel Plated and Rubber Stock, 6 Shot, 3½ inch Barrel. Weight, 16 oz.,	[illegible]
338 B	Same description as No. 338, but Blued Finish,	[illegible]

Columbian Automatic Shell Front Revolver.

NO.	DESCRIPTION.	EACH.
1232	Columbian Hinge, Automatic Ejecting, 32 Caliber, Nickel-Plated, 5 Shot, 3 inch Barrel, Weight, 11½ oz.,	$5 25
1232B	Same description as No. 1232, except has Blued Barrel,	5 50

Revolvers.

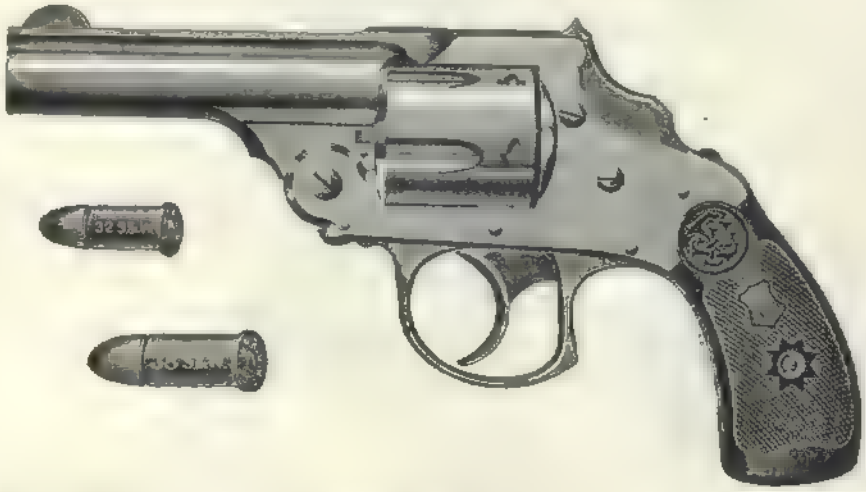
Spencer Safety Hammerless Revolvers.



Rebounding Lock, Self Cocking.

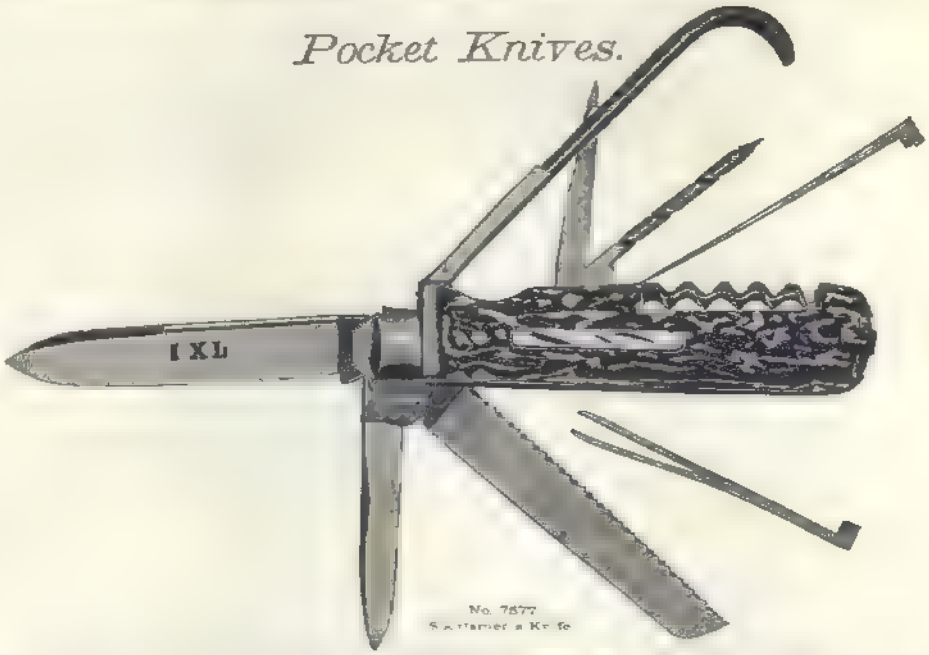
NO.	DESCRIPTION	EACH
300	Spencer Safety Hammerless, 22 Caliber, Rim Fire, Nickel Plated Rubber Stock, 7 Shot,	$4 00
400	Spencer Safety Hammerless, 32 Caliber, S. & W. Center Fire Nickel Plated and Rubber Stock, 6 Shot, 3½ inch Barrel Weight, 15 oz.	4 00
300	Spencer Safety Hammerless, 38 Caliber, S & W., Center Fire, Nickel Plated and Rubber Stock, 6 Shot, 3¼ inch Barrel Weight, 16 oz.	4 00

Forehand & Wadsworth Hammerless Automatic.



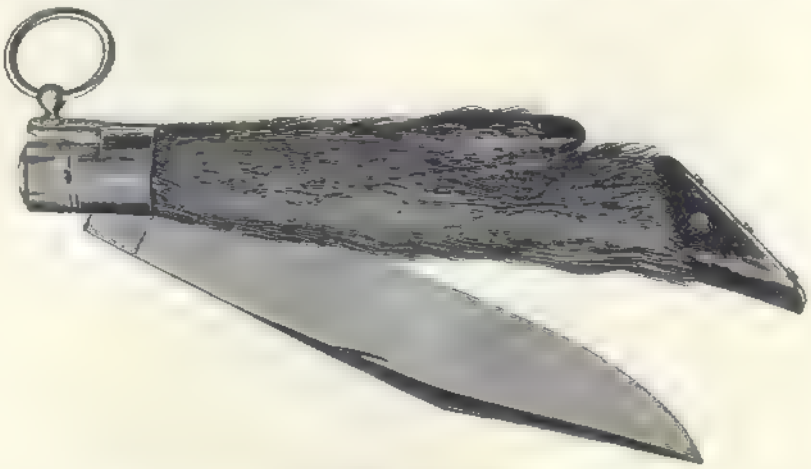
NO.	DESCRIPTION.	EACH.
432	Hammerless Automatic, 32 Caliber, S. & W., Center Fire, Nickel Plated and Rubber Stock, 6 Shot, 3¼ inch Barrel. Weight, 17 oz.,	$6 00
438	Hammerless Automatic, 38 Caliber, S. & W., Center Fire, Nickel Plated and Rubber Stock, 5 Shot, 3¼ inch Barrel. Weight, 16 oz.,	6 00

Pocket Knives.



No. 7577
Sportsman's Knife

NO.	DESCRIPTION.	PER DOZEN
[illegible]	Two Blades, Stag Handle, Iron Lined, Five Tools, 3⅝ inches,	$13 50
[illegible]	Three Blades, Stag Handle, Iron Lined, Six Tools, 3⅝ inches, "1XL,"	84 50
[illegible]	Three Blades, Stag Handle, Iron Lined, Seven Tools, 3½ inches,	20 25
[illegible]	Four Blades, Stag Handle, Iron Lined, Nine Tools, 3⅝ inches,	27 00
[illegible]	Four Blades, Stag Handle, Iron Lined, Nine Tools, 3⅝ inches, "1XL,"	4[illegible] 00



No. 4899, Deer Foot Knife

NO.	DESCRIPTION.	PER DOZEN.
[illegible]	One Blade, Brass Lined, Lock Back, Coarse Pointed, 4¼ inches,	$18 00
[illegible]	One Blade, Brass Lined, Lock Back, Coarse Pointed, 3⅜ inches,	27 00

HALF DOZEN IN A BOX.

Pocket Knives.

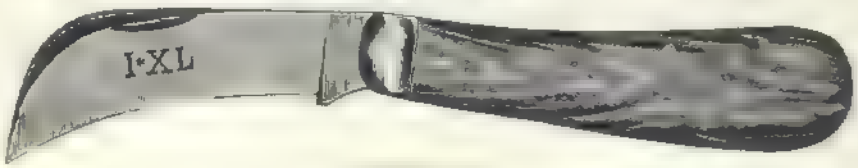
George Wostenholm & Son's Celebrated I·XL.

No. [illegible]

No.	DESCRIPTION	PER DOZEN
[illegible]	One Blade, Buffalo Handle, Brass Lined, every End [illegible] inches	$11 05
[illegible]	[illegible] Two Vees, Best [illegible] Covers Pl[illegible]d	10 50

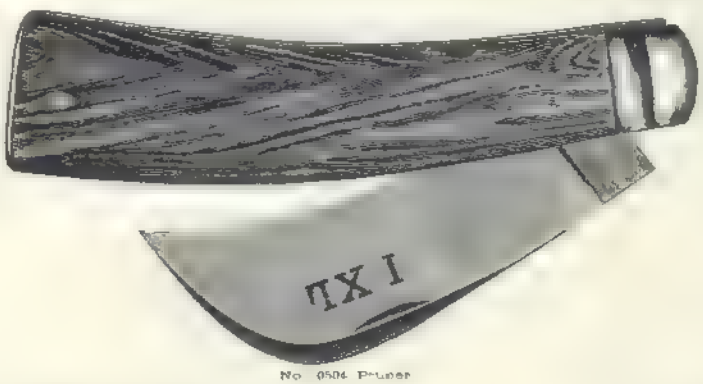
No. 2,468. Pruner and Budder.

No.	DESCRIPTION	PER DOZEN.
2468	Two Blades, Stag Handle, Iron Lined, Full Covers [illegible] inches.	$18 50



No. [illegible] Pruner.

No.	DESCRIPTION	PER DOZEN
11270	One Blade, Cocoa Handle, Iron Lined, 3⅞ inches,	$5 62



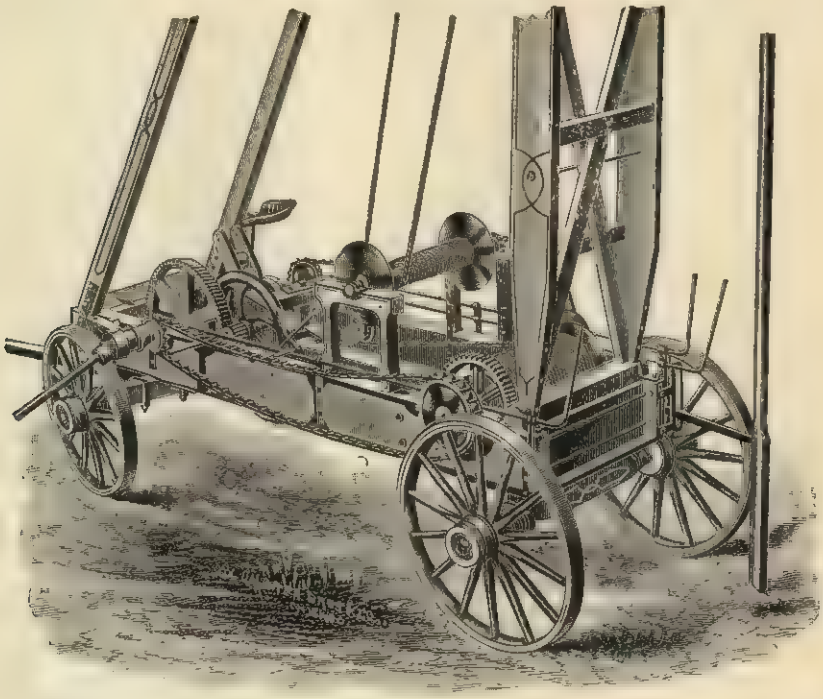
No. 0504. Pruner.

NO.	DESCRIPTION.	PER DOZEN
10504	One Blade, Cocoa Handle, Iron Lined, Seal Cap, 5¼ inches.	$17 10

HALF DOZEN IN A BOX.

PECH'S MONARCH ROCK DRILLING MACHINE.

For Drilling Wells up to 6 Inches Diameter to 500 feet in Depth, or Smaller Diameters to Greater Depth.



The cut represents Pech's latest improved drilling machine, No. 8, arranged for animal power, for making artesian wells in rock, equipped completely for a 500 foot well, as detailed below. It is one of the most popular machines in regions where deep drilling is required. The entire operation of making a well is performed by the handling of a few levers, arranged so that the operator can reach them all from one position.

EQUIPMENT.

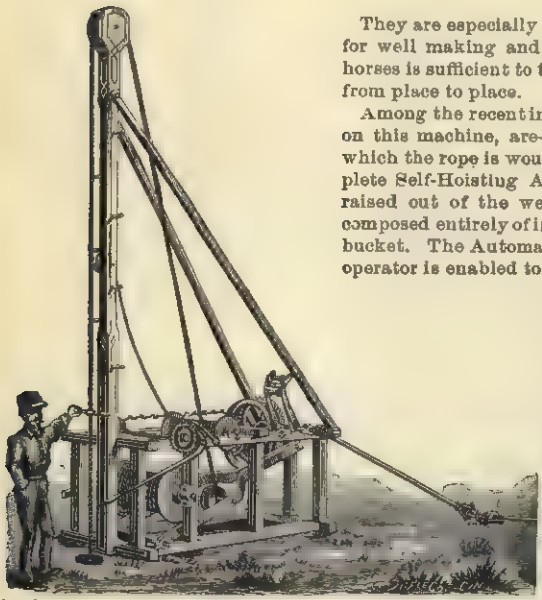
1 Mounted Drilling Machine.
1 Four Horse Power.
2 Sweeps.
2 Lead Poles.
3 Knuckles.
1 Tumbling Rod Jack.
2 Tumbling Rods.
1 Derrick.
2 Braces for Derrick.
1 Pair Doubletrees.
1 Neck Yoke.
550 Feet ⅝ inch Crucible Cast Hoisting Cable.
550 Feet ¾ inch Slush Rope.
100 Feet ¾ inch Guy Rope.
2 12 ft. Log Chains.
1 2½ in. 18 ft. long Sinkbar, or if preferred, 1 3-in. 13 ft. Sinkbar.
1 Rope Socket.
2 Drills, from 4 to 6 inches.
1 Set of Jars.
1 Slush Pump.
2 Drill Wrenches.
1 Sledge.
6 Stakes, wood or iron.
1 500 lb. Driving Hammer.
1 Crow Bar.
1 Clamp for holding pipe.
1 Monkey Wrench.
1 Oil Can.

Price, complete as above described..... $630 00 Weight 6,600 lbs.

We can furnish this outfit with Boiler and Engine instead of horsepower, if desired, at moderate advance in price. Write for estimates.

GIANT WELL DRILLING AND PROSPECTING MACHINE.

ADAPTED TO STEAM OR HORSE POWER



They are especially adapted to the needs of the country for well making and mineral prospecting. One span of horses is sufficient to transport both drill and horse power from place to place.

Among the recent improvements which have been made on this machine, are—The perfect Rope Distribution, by which the rope is wound up evenly on the drum. A complete Self-Hoisting Apparatus, by which the tools are raised out of the well. A Self-Hoisting Arrangement composed entirely of iron friction pulleys for hoisting sand-bucket. The Automatic Let-Out, by means of which the operator is enabled to let or pay out the drill rope, as the drill pierces the earth, without stopping the machine, allowing him to let out a little at a time; in this way drilling on a tight rope, or what is technically called the "spring of the rope," thereby insuring a straight hole. The Catch that holds the lever down while the tools are being hoisted. The Brake on the balance wheel, whereby the horse or other motive power may be checked at the will of the operator. The arrangement of the several parts by which the operator is always ready to hoist his tools automatically, without changing or arranging anything, and without stopping the horses or engine, thereby saving much time which is lost in any other arrangement. The Rope passing from the drum over two sheave pulleys on the drill lever, in such a way that the rope does not move on either of the pulleys, as the lever works up and down; there being no wear on the rope, which is a great saving of expense to the operator.

PRICE LIST:

No. 1 DRILLING MACHINE.—For horse or steam power, for drilling from 200 to 350 feet deep; 200 feet hawser-laid drill rope, 1¼-inch; 200 feet ½-inch bucket rope; two 6-inch "Z" drills; one drill rod, ten feet long, three inches in diameter; two drill wrenches; one sand-bucket; one horse power; two tumbling rods; one sweep; one lead pole; four links to stake down horse power; one tool box; one sledge; one monkey wrench; one hammer; one oil can; one cold-chisel; three extra chain links; six ½-inch nuts; three ⅝-inch nuts; three ½-inch box bolts; two ⅝-inch bolts; six washers.

Complete for Horse Power, not Mounted.....$430 00
Mounted 480 00
Complete, with Steam Engine and Boiler, including Belt, both Drill and Engine Mounted.....$820 00

☞No. 1 Drilling Machine can be used to drill 500 feet deep, or more, by adding rope.

No. 2 DRILLING MACHINE.—For drilling from 350 to 500 feet deep; 350 feet hawser-laid drill rope, 1¼-inch; 350 feet bucket rope ½-inch; two 6-inch "Z" drills; one drill rod ten feet long, 3-inch; one loop; one horse power, with tools and extras; same as No. 1.

Complete for Horse Power, not Mounted.....$460 00
Mounted..... 510 00
Complete, with Steam Engine and Boiler; both Engine and Drill Mounted 850 00

When You Need

HORSE or TOILET CLIPPERS

Write us——————?

We can save you money.

Chicago Flexible Shaft Co., Manufacturers

142, 144 Ontario St., CHICAGO.

NUT PIX

NUT CRAX

GEO. R. OSBORN

BRIDGEPORT, CONN.

NEW YORK
621 Broadway

CHICAGO
114 Lees Bldg.

Before ordering for Fall send for our

✱ —*KATALOG AND PRICES*

Also Easels, Mounted Photos, etc., etc.

The Star Safety Razor

A great Invention, which renders shaving an easy and convenient luxury, and obviates al danger of cutting the face. Warranted to shave clean. Time and money saved. Delays in barber shops avoided. It is specially adapted to the aged and the young, and is

indispensable to travelers by land and by sea; to miners and persons camping out; to the indolent and the luxurious; to the man who wants a quick shave, and him whose skin is too tender to admit of the application of the ordinary razor. Once used, you will never be without one.

FOR SALE BY ALL LEADING HARDWARE DEALERS, OR

KAMPFE BROS., 8 Reade St., N. Y.

Mfrs. and Inventors.

MENTION HARDWARE DEALER

First Prize--Highest Medal of Award, World's Fair, Chicago, Ill., 1893

GILLETTE CLIPPING MACHINE CO. 201 East 23d Street . . . New York

J. H. FENTON & CO., 153 Michigan Avenue, CHICAGO, Western Agents.

Gillette's Celebrated Hand Power Machine

Greatest Variety of POWER HORSE CLIPPING MACHINES in the World.

HEADQUARTERS FOR

Horse Clipping Machines

"Yoke" Clipping Machine, Operated by any Kind of Power

Over 3,500 in use—Over 250 in New York City in constant operation. Introduced in the leading Horse Car Stables, Express Companies, Breweries, Dry Goods Houses, &c., in the United States and foreign Countries

Advance orders for 500 machines for Europe this season proves the popularity and superiority of our machines throughout the world . .

Bicycle Clipper

Reduced Prices **Liberal Discount to the Trade**

Fine Clipper Grinding a Specialty

Clippers ground and returned (all kinds) on the day received. New Plates supplied on all standard goods.

HARDWARE SPECIALTIES DEALERS

Pleases the Public...

And therefore pleases the dealer

ALL OUR **SHEARS** AND **SCISSORS** HAVE THE

NICKERSON PATENT BOLT

Write us about it : : :

The Davenport Cutlery Co.

• • • DAVENPORT, Iowa

THE WISS SHEARS AND SCISSORS

MADE IN GREAT VARIETY, BUT OF ONLY ONE GRADE, THE

BEST

They have the Finest Finish and a reputation that extends all over the world, and hence

FIND A READY SALE

WRITE FOR LATEST ILLUSTRATED CATALOGUE AND DISCOUNTS.

J. WISS & SONS, - NEWARK, N. J.

This is an Article that Sells.

With Best Quality of Cloth Covered Case and Aluminum Imprint

Witte's A.1. Corn Razor

Made in America. Profitable for Dealers.

Quality Guaranteed. Write for Price List.

ALEXIS WITTE, Manufacturer. 47 Warren St., NEW YORK.

PATENTED JAN. 4. 1887.

Champion Egg Opener

Nickel Plate 25 cents

Silver Plate 50 cents

This improved article is one of the best articles ever introduced for **Opening Soft Boiled or Raw Eggs** No danger of soiling the table linen or fingers, no pieces of shell to bother. Any person can work it, even a child. Sent to any address by addressing Sole Patentee and Manufacturer, for *25 Cents.*

All goods warranted perfect.
Liberal discount to the trade and agents
Patented in United States, Great Britain and Dominion of Canada.

W. R. HARTIGAN
COLLINSVILLE, CONN.

ENGINE OIL CUPS.

Fig 305.

Without Sight Feed.

Fig. 307.

Fig 306.

With Sight Feed.

Fig 308.

Number	000	00	0	1	1½	2	3	4	5	6
Diameter of Glass	1	1⅛	1¼	1⅜	1½	2	2¼	2⅝	3	3½
Height of Glass	⅞	1	1⅛	1¼	1⅜	1⅝	2⅜	2¾	3	4
Capacity, ounces			½	¾-5	1	2	3	4	8	16
Pipe Thread	⅛	⅛	⅛	¼	¼	⅜	⅜	⅜	½	½
Fig 305, price, brass finished	$0 70	$0 75	$0 80	$1 00	$1 25	$1 50	$1 90	$2 40	$3 10	$4 00
Fig. 307 " "			1 00	1 20	1 45	1 75	2 15	2 70	3 40	4 30
Figs 306 and 308 " "		1 10	1 25	1 50	1 75	2 10	2 55	3 15	3 90	4 80

Screw Feed. Fig. 311.

Needle Valve. Fig. 312.

Locomotive Glass Guide Cup. Fig. 310.

Number	0	1	1½	2	3	4	5	6
Diameter of Glass	1⅛	1¼	1⅜	2	2¼	2⅝	3	3½
Height of Glass	1⅛	1¼	1½	1⅞	2⅜	2¾	3	4
Capacity, ounces	½	¾	1	2	3	4	8	16
Pipe Thread	⅛	⅛	¼	⅜	⅜	⅜	½	½
Figs 311 and 312	$1 10	1 60	2 00	2 50	3 00	4 00	6 00	9 00
Fig 310			2 50	3 00	4 00			

Cylindrical Glasses for Engine Oil Cups.

Number	000	00	0	1	1½	2	3	4	5	6
Price, net	$0 05	06	08	10	10	12	15	25	45	65
Price, Cork Washers, net	09	09	12	18	24	30	36	40	50	60

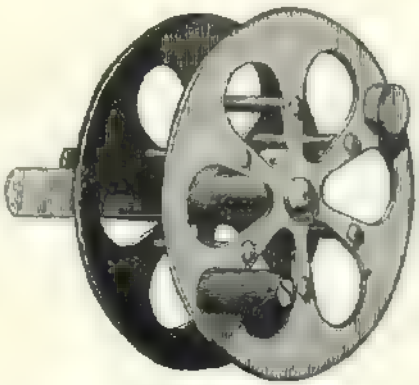
ECONOMY AUTOMATIC, ECCENTRIC, CROSS-HEAD AND WRIST PIN OILER.

For Marine, Traction and Stationary Engines. Tobin Bronze Shank.

The following advantages are claimed for the Economy Oil Cup over all others: It will *save one-half the oil* commonly required for any bearing, therein alone repaying its cost several times in a year. Change of feed can be made in half a minute without any tool, and the feed will remain perfectly constant until changed again. It will feed the last drop of oil out of the cup with the same force as the first. It delivers the oil to the bearing in a fine spray. It cannot feed when the engine is not running. It has no movable parts to wear or break, no pins to become gummed up and shut off the supply of oil. Its economy makes it profitable to use the best grades of oil. We will sell it on a guarantee of a 50 per cent. saving in oil.

No. of Oil Cup	Holds Ounces	Diameter	Height	Pipe Size Shank	Metal Body—Each. Brass Fin'd	Metal Body—Each. Nic'el Pl't'd	Glass Body. Each. Brass Fin'd	Glass Body. Each. Nic'el Pl't'd	Extra Glasses with Cork Washers Per Doz., Net.
1	2	2½	3⅛	¼	$ 4 00	$ 4 25	$ 4 50	$ 5 00	$1 20
2	4½	2¾	3⅝	¼	5 00	5 50	5 50	6 00	1 40
3	7	3½	4⅜	¼	6 50	7 00	7 00	7 50	2 20
4	10	3¾	4⅝	¼	10 00	10 50	10 50	11 00	3 00

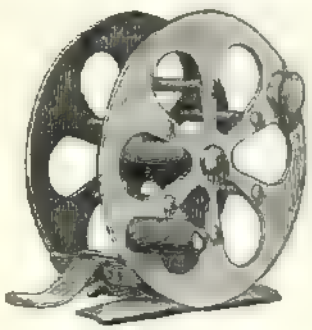
"Gogebic" Fishing Reels.



Nos. 3040 and 3090.

"Amateur," Heavily Nickel Plated, Finely Finished for Trout Fishing. Side Attachment.

NO.	DESCRIPTION.	PER DOZEN.
3040	2½ in. Diam., 40 yards, Side, with Drag,	$10 00
3090	3 in. Diam. 90 yards. Side, with Drag	12 00



No. 3240.

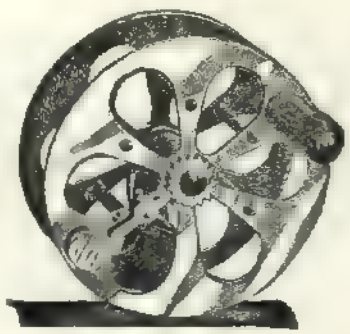
"Amateur," Heavily Nickel Plated, Finely Finished, for Trout Fishing

NO.	DESCRIPTION.	PER DOZEN
3240	2½ in Diam., 40 yds. Upright with Drag	$5 00
3290	3 in Diam. 90 yds. Upright with Drag	7 00

A [illegible] Gogebic Reels we name the [illegible]
The Perfect Spool, allowing the [illegible] Reversible and proven [illegible]

The greater power obtainable [illegible] spool be handled [illegible] fastened at the farthest possible point from center of Reel. [illegible] relied [illegible] that what is [illegible]

Lightness consistent with strength, and very free [illegible]
The Index click on Nos. 3390, 3140, 3340 and 34100 can be thrown off at will.



No. 3040.

"Gogebic," Heavily Nickel Plated. Finely Finished for Trout Fishing

NO	DESCRIPTION.	PER DOZEN
3340	2½ in Diam., 40 yds., Upright, with Click	$8 00

No. 3540.

Expert [illegible] Heavily Nickel Plated, Finely Finished, [illegible] Fishing

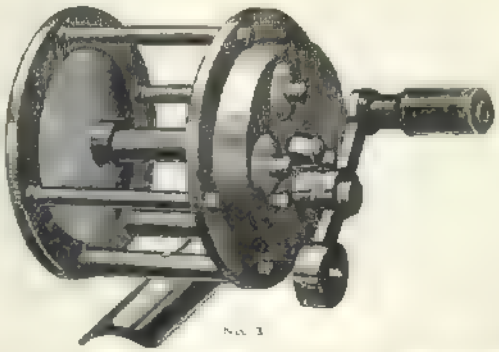
NO.	DESCRIPTION.	PER DOZEN
3440	2½ in Diam., 40 yds., Upright, with Click	$ [illegible]
34100	3 in Diam., 100 yds., Upright, with Click	[illegible]
3540	3½ in Diam., 40 yds., Upright, with Click, Sliding Drag,	[illegible]
35100	3 in. Diam., 100 yds., Upright, with Click, Sliding Drag. Same style as No. 3540	20 00
36200	3½ in. Diam., Extra Large Capacity, with Click, Adjustable Click Lever, Sliding Drag,	30 00

The Nos. 3440, 3540, 34100, 35100 and 36200 have an entirely new device for ease in casting, or "playing a fish, whereby the angler may vary the reel from a free-running to a definite [illegible] casting and a comfortable [illegible] by the pressure of [illegible] thumb. By this device the line may be adjusted [illegible] This guard is made of [illegible] but [illegible] the [illegible] is by a [illegible]

[illegible] of the Expert Reels admits of Reel being quickly [illegible] easily taken apart for oiling and cleaning the spool containing [illegible] removable in a few seconds.

Fishing Reels.

Celebrated Kentucky Reels.



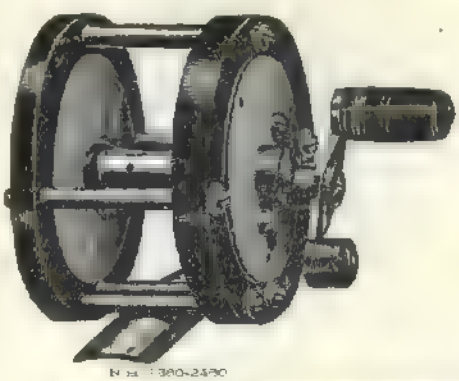
No. 3

Lightest and Best Reel Made.

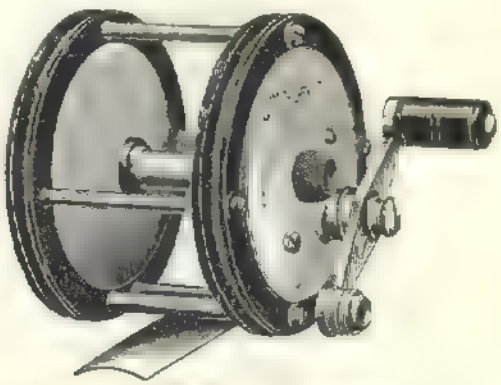
Aluminum, Quadruple Multiplying, Adjustable Sliding Click and Pivot

NO.	DESCRIPTION	EACH
3	2 Inch Diameter, holding 40 yards Line,	$4 00

This Reel is made after the pattern of the No. 3 Kentucky so well known by all Anglers for its Superior Quality. It combines with the most practical features of the best Reels the lightness of aluminum, which makes it about half heavier than any other Reel on the market.



No. 2360-2450



No. 2580

Quadruple Multiplying, Brass Click, Combined Hard Rubber and Corrugated Metal Handle Nut, Lock Screw, Steel Pivot, Steel Click, Oxy Spring and Nickel Adjustable Pivot Cap.

NO.	DESCRIPTION	EACH
2360	60 yards, 2 inch diameter,	$1 50
2380	80 yards, 2¼ inch diameter,	1 75
2450	100 yards, 2½ inch diameter,	2 00
2580	150 yards, 2¾ inch diameter,	2 50

These are very superior Reels, combining Lightness, Elegance and Strength with Perfect Mechanism. They fill a Want in Materials, Advance on the Standard of Quality for Reels, and are strictly High Grade Goods.

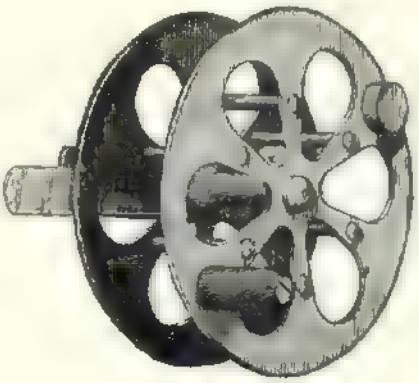
Double Multiplying, Combined Hard Rubber and Metal, Nickel Plated Handle Hard Rubber Pinions, Back Sliding Click, Steel Pivot, Nickel Plated Adjustable Pivot Cap.

NO.	DESCRIPTION	EACH
2360	60 yards,	$4 50
2380	80 yards,	5 00
24100	100 yards,	6 00

Quadruple Multiplying, Combined Hard Rubber and Metal, Nickel Plated Handle Hard Rubber Pinions, Adjustable Pivot, Nickel Plated Back Sliding and Adjustable Pivot Bracket.

NO.	DESCRIPTION	EACH
2460	60 yards,	$ 7 50
2480	80 yards,	8 00
24100	100 yards,	10 50

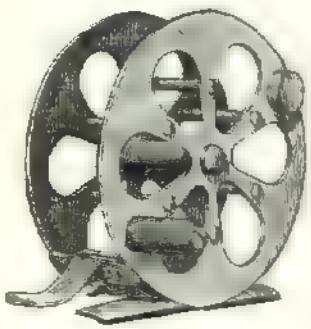
"Gogebic" Fishing Reels.



Nos. 3040 and 3090.

"Amateur," Heavily Nickel Plated, Finely Finished for Trout Fishing Side Anti-Friction

NO.	DESCRIPTION.	PER DOZEN.
3040	2¾ in. Diam., 40 yards, Side, with Drag,	$10 00
3090	3 in. Diam., 90 yards, Side, with Drag,	12 00



No. 3240.

Amateur," Heavily Nickel Plated, Finely Finished, for Trout Fishing.

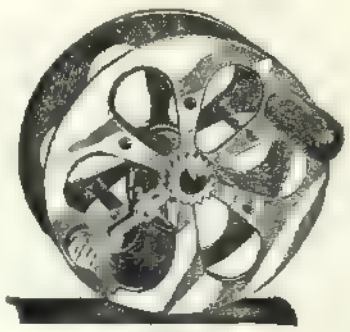
NO.	DESCRIPTION	PER DOZEN
3240	2¾ in. Diam., 40 yds., Upright with Drag,	$15 00
3280	3 in. Diam., 80 yds., Upright, with Drag,	17 00

Among the merits of Gogebic Reels will be found the following:

The Patented Speed Regulating device to dry and prevent backlash and prevent overrunning reels,

The greater power obtained on account of the speed the handle being fastened at the farthest possible point from center of Reel. It is an acknowledged fact that [illegible] Reels being direct-acting and having a large diameter of spool, overcome this [illegible] Reels, while [illegible] with the [illegible] running.

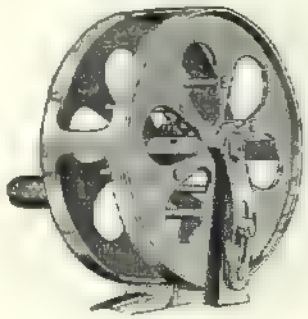
The [illegible] No. 3240, [illegible] can be thrown off at will.



No. 3340.

"Gogebic," Heavily Nickel Plated, Finely Finished for Trout Fishing

NO.	DESCRIPTION.	PER DOZEN.
3340	2¾ in. Diam., 40 yds., Upright with Click,	$8 00



No. 3540.

"Expert," Heavily Nickel Plated, Finely Finished, for Bass Fishing

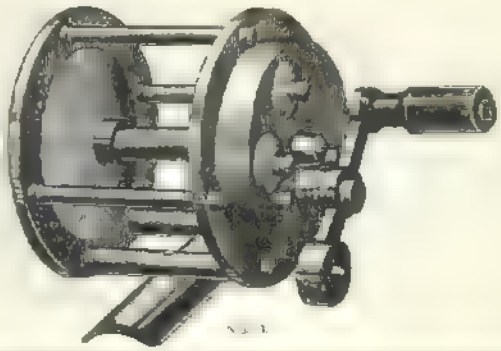
NO.	DESCRIPTION	PER
3440	2¾ in. Diam., 40 yds., Upright with [illegible]	[illegible]
3440	[illegible] in. Diam., 100 yds., Upright, with Click,	[illegible]
3540	2¾ in. Diam., 40 yds., Upright, with Back Sliding Drag,	24 00
35100	3 in. Diam., 100 yds., Upright, with Back Sliding Drag. Same style as No. 3540,	28 00
36200	3 in. Diam., 200 yds., Upright, with Back Sliding Click, Adjustable Cone Bearings and Detachable Thumb Drag,	30 00

The New [illegible] 3440, [illegible] 100 [illegible] 3040 have an entirely new [illegible] reel [illegible] or "delaying" action, whereby the [illegible] supply from a free running [illegible] or bring it to a complete stop, simply by the [illegible] on the guard. By this device the line may be stopped instantly at any desired point when casting. This guard is made of [illegible] or struck by a [illegible], it will resume its original position.

The new construction of the Expert Reels admits of Reel being easily and easily taken apart for oiling and cleaning, the spool containing the line being removable in a few [illegible].

Fishing Reels.

Celebrated Kentucky Reels.



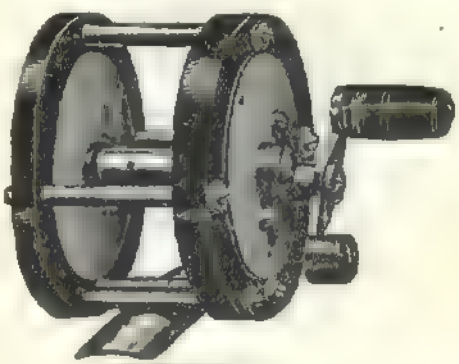
Lightest and Best Reel Made.

No. 1.

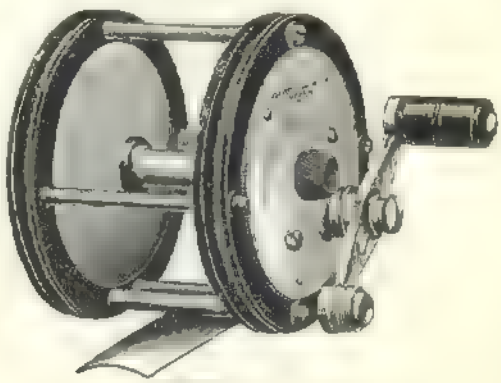
Automatic Quadruple Multiplying, Finest Quality, Combined Hard Rubber and Metal Handle, with Lock Screw, Steel Pivot (Steel Click, Cog Spring and Ratchet), Adjustable Pivot Cap.

No.	DESCRIPTION	EACH
8	2 inch Diameter, Holding 60 yards Line.	$4 00

This Reel is made after the pattern of the No. 3 Kentucky, but is only 2½ inches in diameter, and No. 3 or 2½ inches wide, with most practical features of the best Reels the lightness of aluminum, which makes it the lightest, and by far the best Reel made.



No. 2460-2480



No. 2430

Quadruple Multiplying, Finest Quality, Combined Hard Rubber and German Silver Extension Handle, with Lock Screw, Steel Pivot (Steel Click, Cog Spring and Ratchet), Adjustable Pivot Cap.

No.	DESCRIPTION	EACH
2430	60 yards, 2 inch diameter,	$11 50
2480	80 yards, 2½ inch diameter,	13 50
24100	100 yards, 2½ inch diameter,	15 00
24120	120 yards, 2½ inch diameter,	17 00

These Reels are for Reels, combining Lightness, Elegance and Strength with Reliable Construction, and represent the Standard of Quality for Rods, and are Heavy Enough for Large Fish.

Double Multiplying, Combined Hard Rubber and Metal Nickel Plated Handle, Brass Plates, Click Stop, Click Screw, Pivot Steel Pivot Adjustable Pivot Cap.

NO.	DESCRIPTION	EACH
2360	60 yards,	$4 50
2380	80 yards,	5 25
23100	100 yards,	6 00

Quadruple Multiplying, Combined Hard Rubber and Metal Nickel Plated Handle, Steel Pivot, Adjustable Pivot, with Back Lash, Click and Spring.

No.	DESCRIPTION	EACH
2460	60 yards,	$ 7 50
2480	80 yards,	9 00
24100	100 yards,	10 50

GOULD'S AIR COMPRESSOR OR VACUUM PUMPS.

Fig. 605.

These pumps are co structed with brass-lined cylinders and metallic valves, in manner so that all the air received into the cylinder on the up stroke of the piston will be forced out on the down stroke. The cylinders are 6 inches bore and 12 inches stroke, with capacity of 339 cubic inches of air at each stroke, and will discharge it into a receiver at any desired pressure up to 100 pounds per square inch, by applying the necessary power.

At 50 revolutions per minute the pump will deliver 16,950 cubic inches, or about 9 cubic feet, at ordinary atmospheric pressure; at 2 atmospheres, or 15 pounds pressure, about 4½ cubic feet; at 3 atmospheres, or 30 pounds pressure, about 3 cubic feet; at 4 atmospheres, or 45 pounds pressure, about 2¼ cubic feet This law governs all air pressure pumps. In making high pressure the cylinder shoul l be set in water to keep it cool

Figs. 605 and 772 are the same in all respects, except that the former is for attachment to belt or other power, and the latter for hand use.

No.	Dia. Cyl.	Stroke.	Inlet.	Outlet.	Price. Fig. 605	Price. Fig. 772
16	6 inches.	12 inches.	1½ inch.	1½ inch	$40 00	$50 00
24	8 "	12 "	1¼ "	1¼ inch.	50 00	60 00

Fig. 772.

BRASS AIR PUMPS.

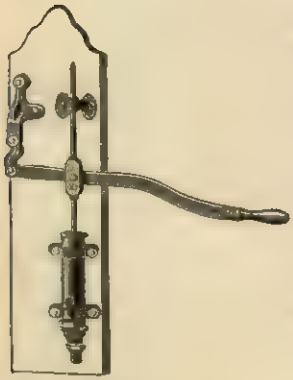


Fig. 459.

These pumps are built wholly of brass, and are of proper construction for forcing air or gas into casks or other vessels. In this manner the most destructive acids,' such as nitric, sulphuric, etc., may be raised by atmospheric pressure without coming in contact with the pump or anything except the conveying pipes.

Figs. 459 and 893 are identical, except in the application of power. The former is for hand use exclusively The latter may be operated by belt, if a pulley is substituted for the crank wheel shown in cut. For hand use only, Fig. 893 is more easily operated in heavy service than Fig. 459, the rotary motion and balance wheel contributing to increased power.

Price, Fig 459, 2 inch bore, 6 inch stroke. $15 00
" " 459, 1½ " " 10 " " 30 00
" " 893, 2 " " 6 " " 28 00
" " 893, 1½ " " 10 " " 43 00

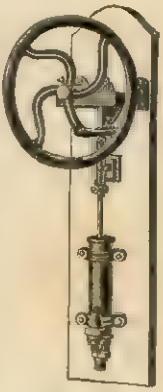


Fig. 893.

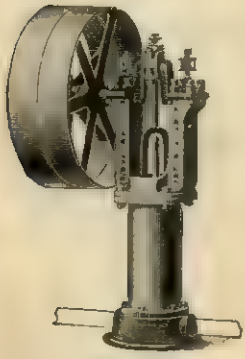


Fig. 1029.

GOULD'S AIR PRESSURE OR VACUUM PUMP.

With Crank Shaft and Pulleys.

Fig. 1029 represents our Air Pressure or Vacuum Pump, with crank shaft, pitman and guide, arranged with tight and loose pulleys for power. Pump has brass-lined cylinder with metallic valves. Air is received into cylinder through inlet opening in base on the upstroke of piston, and forced out through discharge opening in base on the downward stroke of piston.

These pumps have a general application of forcing air into receivers, to agitate liquids, and are also used in connection with the dry-pipe sprinkler system in mills and factories. It may also be used for any purpose where a vacuum is required.

Dia. Cyl.	Stroke.	Displacement free air per Rev.	Maximum Speed.	Maximum Pressure.	Inlet and Outlet.	Price.
6 inch	8 inch	226 cu in	60 rev	30 lbs.	1¼ in	$80 00

COULD'S HYDRAULIC RAMS.

Fig. 345½.

Fig 345½ represents our Single Hydraulic Rams, which can be fitted for wrought iron or lead pipe, as desired They are made of medium weight, for all ordinary uses to which rams are adapted.

No	Supply per Minute to Operate Ram.	Length of Drive Pipe	Pipe Connections Drive	Pipe Connections Discharge	Price
2	1 to 3	50 to 75 feet.	¾ inch	¾ inch	$ 9 00
3	2 to 4	50 to 75 "	1 "	½ "	11 00
4	3 to 7	50 to 100 "	1¼ "	¾ "	14 00
5	6 to 10	50 to 150 "	2 "	1 "	22 00
6	11 to 25	50 to 200 "	2½ "	1¼ "	40 00
7	20 to 40	50 to 200 "	3 "	1½	75 00
8	25 to 75	50 to 200 "	4 "	2	125 00

HEAVY DUTY HYDRAULIC RAMS.

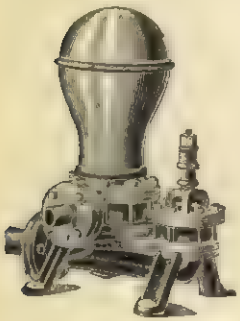


Fig. 346½ Single Ram.

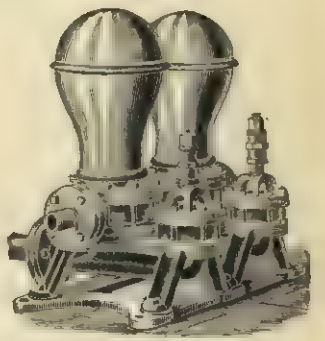


Fig. 346 Double Ram

No	Gals. water from source pr. minute	Length of Drive Pipe	Connect'g Pipe. Drive.	Connect'g Pipe. Dis.	Price, Fig. 346½ Brass Spring Valves.	No.	Gals. water from source pr. minute	Length of Drive Pipe	Connect'g Pipe. Drive.	Connect'g Pipe. Dis.	Price, Fig. 346. Brass Spring Valves
6	11 to 25	50 to 200	2½ in.	1¼ in.	$ 80 00	6	11 to 25	50 to 200	2½ in.	1¼ in	$100 00
7	20 to 40	50 to 200	3 "	1½ "	80 00	7	20 to 40	50 to 200	3 "	2 "	170 00
8	25 to 75	50 to 200	4 "	2 "	145 00	8	25 to 75	50 to 200	4 "	2½ "	270 00

For complete description of Hydraulic [illegible] and for special circulars

GOULD'S SWAN NECK VILLAGE FIRE ENGINE.

With Gun Metal Cylinders.

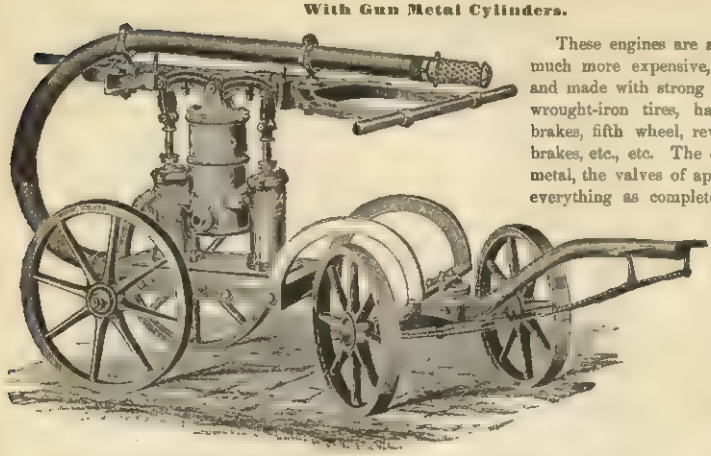


Fig. 465.

These engines are as well built as those much more expensive, being well ironed, and made with strong wooden wheels with wrought-iron tires, hard wood pole and brakes, fifth wheel, reversible and folding brakes, etc., etc. The cylinders are of gun metal, the valves of approved patterns, and everything as complete as first-class workmanship and the best of material can make them. From eight to twelve men can work on them, and with this power an effective stream of water can be forced on to buildings of ordinary size.

No.	Diameter, Cylinder	Suction	Discharge	Stroke	Gallons per Revolution	Gun Metal Cylinders. Price
10	4½ inch.	2½ inch.	1½ inch.	6 inch.	7/8	$200 00
16	6 inch.	3 inch.	2 inch.	8 inch.	2	280 00

The above prices do not include any hose.

GOULD'S DOUBLE-ACTING GARDEN OR FIRE ENGINE.

Brass-Lined Cylinder, Mounted on Wrought-Iron Barrow. Two Wheels.

This is a portable double-acting lifting and forcing engine, constructed with a view to great compactness and capacity. The cylinder is of hard brass, 5 inches diameter, surrounded by a wall of cast iron. It will throw a stream through a half-inch nozzle from 80 to 100 feet, and is very effective for any purpose required of such a machine. For cities or villages with narrow streets this engine is admirably adapted.

We include 12 feet of 1½ inch leading and 6 feet of 2 inch suction hose, brass hose pipe and spreader, hose couplings and suction basket.

Engine, complete, as shown in cut.....$58 00

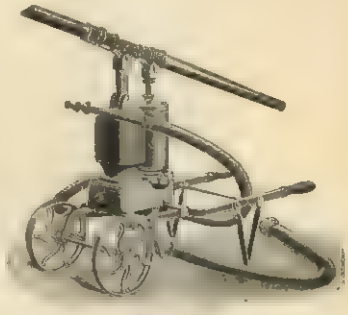


Fig. 630.

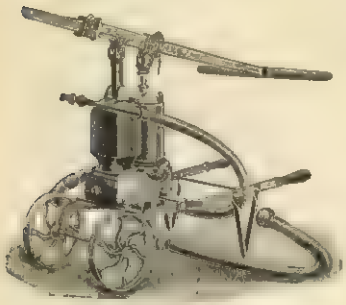


Fig. 653.

GOULD'S DOUBLE-ACTING GARDEN OR FIRE ENGINE.

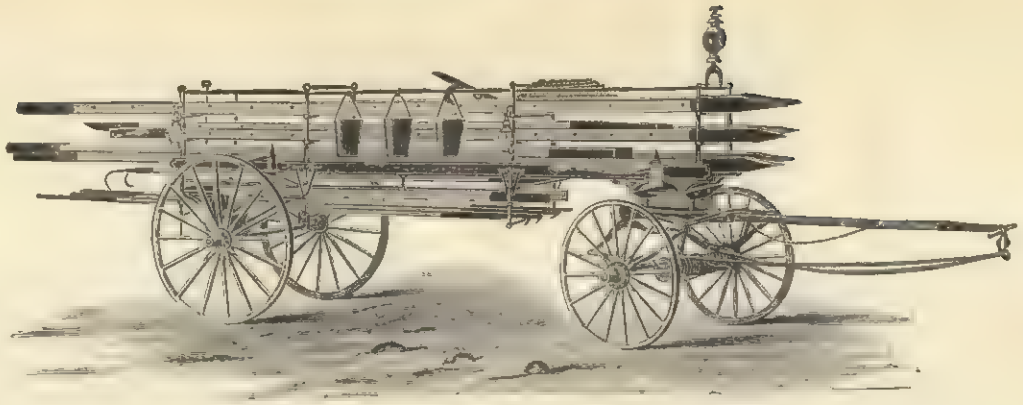
With Brass-Lined Cylinder, Mounted on Wrought-Iron Barrow, and with Wrought-Iron Extension Levers.

This is the same engine as described above, except that it is provided with wrought-iron adjustable arms, with wood brakes, on which six to eight men can work, and is consequently capable of performing greater service. We include 6 feet 2 inch spiral suction hose and 12 feet 1½ inch discharge hose, brass hose pipe and spreader, hose couplings and suction baskets.

Price.....$64 00

Longer lengths of hose furnished if desired, at extra price.

VILLAGE HOOK AND LADDER TRUCK, NO. 2.



This truck is built after the general style of No. 1, but of lighter weight, and to be drawn by hand.

EQUIPMENT.

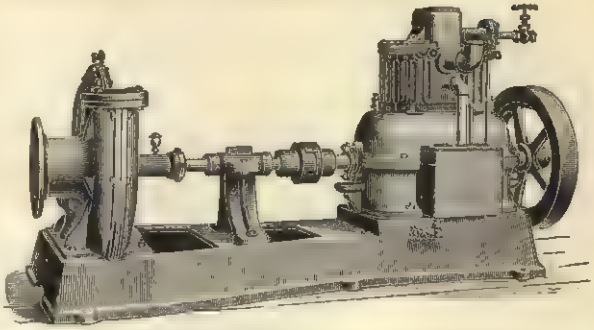
One 40-foot extension ladder, one 30-foot extension ladder, one 24-foot single, one 14-foot roof, one 12-foot roof, four pike poles, two ladder supports, four brass hand lanterns, six rubber buckets, one head light, one 12-inch automatic gong, two fire axes, two pickaxes, two steel crowbars, one 75-foot pull rope, 100 feet pull-down rope, pole, hook and chain; Sarven "A" wheels, brass hub bands, Swede iron forgings, oil-tempered springs, Concord axles, solid collar; each ladder on a separate roller; each "supply" held in place by patent catch; painted English vermilion, gold striped; name or number in gold letters. Hand fire extinguishers added when desired, at an additional cost.

Height over all, 8 feet; length over all, 30 feet; weight, 1,600 pounds.

Price.. .....$550 00

DIRECT STEAM DRIVEN CENTRIFUGAL PUMPS.

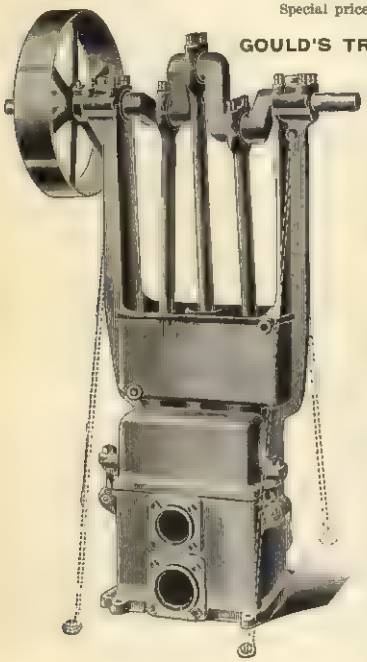
This style of pump has a high-speed engine connected direct on same frame. It only requires a steam pipe connection to a boiler. It is a favorite for a circulating pump in ice factories, for irrigation, for contractors, and in any place where no other power is required.



PRICES AND CAPACITIES.

WITH BRASS PUMPS.				WITH IRON PUMPS.			
Number of Pump.	Gallons per Min. Capacity.	Price without Primer.	Price with Primer.	Number of Pump.	Gallons per Min. Capacity.	Price without Primer.	Price with Primer.
2	200	$275	$290	2	200	$215	$240
2½	300	300	325	2½	300	230	260
3	400	350	370	3	400	275	295
4	900	590	640	4	900	450	500
...	.....	.....	.....	5	1400	550	600
...	.....	.....	.....	6	2000	800	850

Special price on larger sizes upon application.



GOULD'S TRIPLEX IRRIGATION PUMP.

This is our new Triplex Pump adapted to such light service as required for irrigating land, watering stock, and filling tanks. It can be driven by belt connection from gasoline engine, or other motive power.

The valves are rubber faced, with bronze seats; the plungers are inside-packed and have water seal. Crank shaft is extended at both ends so that pulleys can be used at either or both ends. Weight about 700 lbs.

DIMENSIONS AND PRICE.

Plungers 4 in.; stroke 8 in.; suction 3½ in.; discharge 3 in.; floor space 32 x 17 in.; height 62 in.; pulley 20 x 4. Price, $120.00.

PUMPING CAPACITY AND POWER REQUIRED.

On 30 ft. lift, 75 revolutions, 97 gallons per minute, 140,000 gallons in twenty-four hours; sufficient to cover five acres 1 inch deep. 1½ horse power.

On 40 ft. lift, 60 revolutions per minute, 78 gallons per minute, 112,000 per day, sufficient to cover four acres 1 inch deep. 1¾ horse power.

On 50 ft. lift, 50 revolutions per minute, 65 gallons per minute, 93,000 per day, sufficient to cover three and one-third acres 1 inch deep. 1¾ horse power.

Larger sizes pumps can be furnished in this pattern. Send for printed matter.

HYDRAULIC AND JETTING SWIVEL.

Fig. 194.

Size, in..	¾	1	1¼	1½	2	2½	3
Price...	$15 00	20 00	25 00	32 00	40 00	50 00	75 00
Size, in.	3½	4	4½	5	6	7	8
Price.....	$85 00	95 00	100 00	110 00	120 00	130 00	140 00

Fig. 194.

DRIVE TOP—HOLLOW.

Made of pipe, with steel rings, and will outlast any other style made.

Price, Fig 197.	
2 -inch	$ 5 00
2½-inch	6 00
3 -inch	8 00
4 -inch	10 00
4½-inch	12 00
6 -inch	20 00

Fig. 197.

STEEL DRIVE CAPS.

Size of Pipe to drive, 1¼ in., each, $3 00; 1½ in., $4 50; 2 in., $5.00; 3 in., $7 00.

TUBULAR WELL CYLINDER SHOE.

Fig. 16.

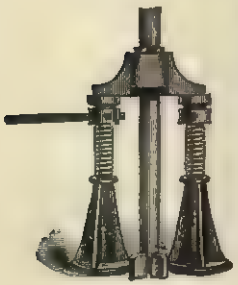
2 -inch, with shoulder	$0 70
2 -inch, no shoulder	70
2½-inch, no shoulder	1 00
3 -inch, no shoulder	1 20
4 -inch, no shoulder	1 50

STEEL DRIVE HEADS—SOLID.

For 1¼-in. pipe..	$1 50
For 1½-in. pipe..	2 25
For 2 -in. pipe..	3 00
For 2½-in. pipe..	$4 00
For 3 -in. pipe..	6 00

Fig. 181.

AMERICAN PIPE LIFTER.



Jack Screws not included in prices.

No. 2.	For 2-inch pipe.....	$4 00
No. 3.	For 2½-inch pipe.....	5 00
No. 4.	For 3 and 3½-in. pipe..	7 00

DRIVE BLOCKS.

For Pipe.

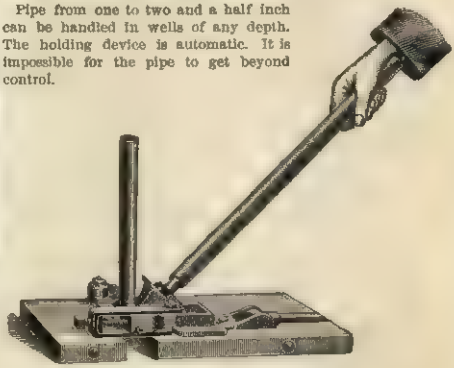
Fig. 183.

Solid blocks used with Hydraulic Tools, $20.00. Hollow blocks used with Jetting Tools, $30.00.

RED JACKET PATENT PIPE HOLDER.

For Holding and Lowering Pipe in Wells.

Pipe from one to two and a half inch can be handled in wells of any depth. The holding device is automatic. It is impossible for the pipe to get beyond control.



For 1¼ and 1½-inch pipe....	$3 50
For 2 and 2½-inch pipe.....	5 00

Fig. 179½.

Fig. 179½. STONE GRAPPLE.

Is Used to Remove Stones and Boulders from Bored Wells.

Size, inches.....	4	6	8	12	16
Price, each.....	$6 00	8 00	12 00	16 00	20 00

Fig. 183½. AUTOMATIC PIPE GRAPPLE.

For Pulling or Holding Rods or Well Pipe.

For holding Pipe, inches...	1	1¼	2	2½	3
Price, each.....	$3 50	3 50	5 00	6 00	7 50

Fig. 183½.

Base Ball Bats.

This Trade Mark Signifies the Highest Quality

Every article bearing the Trade Mark will be of extra [illegible] and will be put on only such goods as we can commend to the judgment of our customers. As our firm name does not appear on the goods the Trade Mark is substituted for responsibility and to guarantee the quality

This Trade Mark Signifies the Standard for Excellence.

The precedence which we have acquired as the leading house in Hardware and Sportsmen's Goods in the country will, we trust, be accepted as a guaranty of the general excellence and high quality of workmanship which the goods bearing our Trade Mark will possess

No.	DESCRIPTION.	PER DOZEN
90	Green Band, Trade Marked Mascot League Players' Bat. This is a New Special Quality Bat, selected and manufactured with more care than any Bat made. Nothing but the Very Best [illegible] our Second Growth, Thoroughly Seasoned Ash is used. The Bats are turned to Special Models as used by the leading League batters. Dark Stained Grain Finished Very Durable and gives a Pleasant, Firm Hold for the Hands. Each Bat Carefully Weighed, Trade Marked and [illegible] in a Strong Paper Bag	$9 00

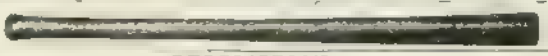
No.	DESCRIPTION	PER DOZEN
[illegible]	[illegible] Trade Marked League Bat [illegible] of the Choicest Selected Second Growth White Ash, Mascot Model, League [illegible] Bat, is Carefully Weighed. They are Lathe Polished and Finished in the Highest Possible Manner, and we Guarantee it to be Superior to any 50-cent Bat made by other manufacturers. Incased in a [illegible] Paper Bag,	[illegible]

No.	DESCRIPTION	PER DOZEN
1	[illegible] Trade Marked League [illegible] Selected Straight Grained White [illegible] Paper Bag,	$1 75
103	Green Band, Trade Marked Ash Bat. Made on Four Different Models, Finished with [illegible] and [illegible] Trade Mark	[illegible]

No.	DESCRIPTION	PER DOZEN
[illegible]	[illegible] Trade Marked [illegible] Bat, [illegible] made from the Best Light Wood Bat made. Incased in a Strong Paper Bag.	[illegible]

No.	DESCRIPTION	PER DOZEN
300	Green Band, Trade Marked Boys' Ash Bat. This Bat is Highly Finished, made from Selected [illegible] and finished in the same manner as our No. 100 Bat. Incased in Paper Bag, 34 inches	$1 62
302	[illegible] Band, Trade Marked [illegible] Bat, Finished [illegible] as No. [illegible]	1 87

No.	DESCRIPTION	PER DOZEN
[illegible]	[illegible] Selected Second Growth White and Maple Bats, with [illegible]	$1 [illegible]



No.	DESCRIPTION.	PER DOZEN
	Men's Plain Ash Bats,	$ 70
1	Boys' Plain Ash Bats,	1 [illegible]
317	Men's Plain Base Bats,	1 [illegible]
317	Boys' Plain Base Bats,	100

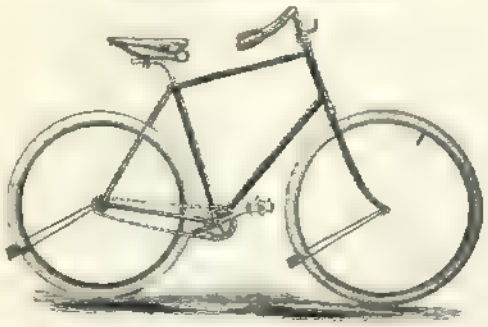
Bicycle Sundries.

Griswold's Folding Mud Guards

DESCRIPTION	PER SET
Griswold's Bevel Mud Guards,	$2 [illegible]

These are fully [illegible] Weight [illegible] and can be [illegible] with [illegible] curved hooks. The only [illegible]

The Fluke Mud Guard.



DESCRIPTION	PER SET
Fluke Mud Guards	$2 [illegible]

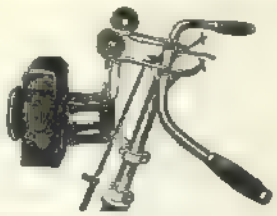
Simple in construction. Durable. Weight 8½ ounces per set. Will not rattle or clog up [illegible] the most difficult [illegible] springs which [illegible] rider closely. Can be taken off and put on [illegible] a very few minutes.

Beauty Child's Seat.

DESCRIPTION	EACH
Beauty Child's Seat,	$5 00

The easiest and best as well as the safest child's seat in the market. Attaches to seat post and has long steel rods connecting which afford ample spring. Is not in the way of the rider.

Lamson's Luggage Carriers.



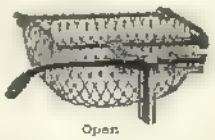
No.	DESCRIPTION	EACH
1	Nickel Plated Bar Covered to Prevent Rattle and Wear, with Leather Straps,	$1 00

The No. 1 is for [illegible] ordinary package [illegible] to space, and [illegible] may at any time be detached, and [illegible] securely when on the bicycle.

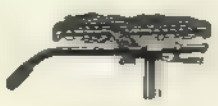
No.	DESCRIPTION.	EACH
4	Nickel Plated, Rubber Covered, Leather Straps,	$1 25

Carrier is made on the same principle as the No. 1, resting on the handle bars [illegible] and [illegible] It is [illegible] down lower in front of the [illegible] and [illegible] and [illegible] carrying [illegible] and [illegible] packages such as [illegible] and [illegible] and [illegible] not [illegible] the brake. It is easily adjusted to rest on the handle bar and is strapped down firmly to hang in front of the machine. It is not intended to take the place of the [illegible] or [illegible] Carrier No. 1 [illegible] and [illegible] especially [illegible] It will safely and securely carry as large a package as any rider would be likely to take along.

Kalamazoo Carrier.



Open



Folded

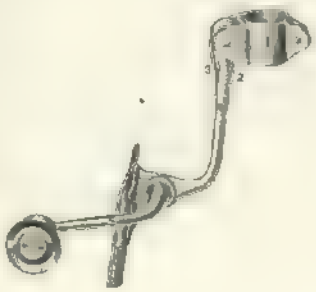
DESCRIPTION	EACH.
Kalamazoo Carrier, Nickel Plated,	$2 00

Attaches in front of or behind handle bar. Weighs 16 ounces and will carry 15 pounds. Has black linen [illegible] and nickel plated frame.

Bicycle Sundries.

The Bailey Automatic Brake.

Brake on Front



DESCRIPTION.	EACH.
Bailey Automatic Brake, Steel Nickel Plated	$5 00

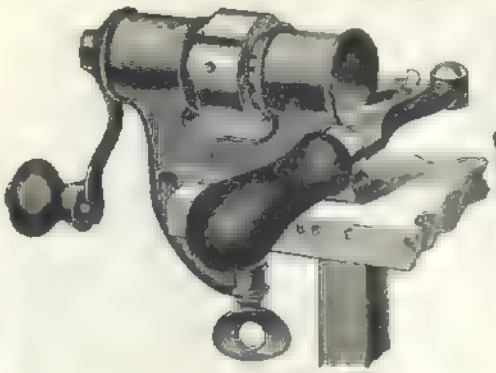
The [illegible] and the [illegible] of the [illegible] the [illegible] of [illegible] the [illegible] [illegible] [illegible]

Powder Flasks.

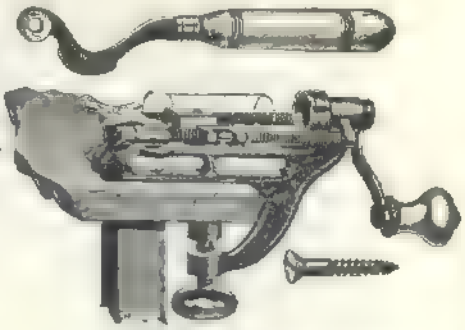
NO.	GR.	SPRING.	TOP.	CHARGER.	PATTERN.	QUALITY.	PER DOZEN.
1002	2	Common,	Fast,	Plain,	Bird and Tree,	Medium,	$2 75
1004	4	Common,	Fast,	Plain,	Dog and Vine,	Medium,	3 00
1008	8	Common,	Fast,	Graduated,	Scroll,	Medium,	3 40
1108	8	Common,	Screw-off,	Graduated,	Scroll,	Medium,	5 00
1208	8	Patent Inside,	Screw-off,	Graduated,	Scroll,	Medium,	6 00
3012	12	Common,	Fast,	Graduated,	Scroll,	Medium,	7 15
7016	16	Common,	Fast,	Graduated,	Scroll,	Medium,	8 60
9212	12	Patent Inside,	Screw off,	Graduated,	Scroll,	Medium,	10 50
7216	16	Patent Inside,	Screw-off,	Graduated,	Scroll,	Medium,	12 75

Gun Implements

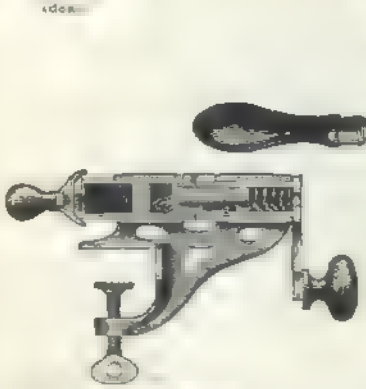
Crimpers.

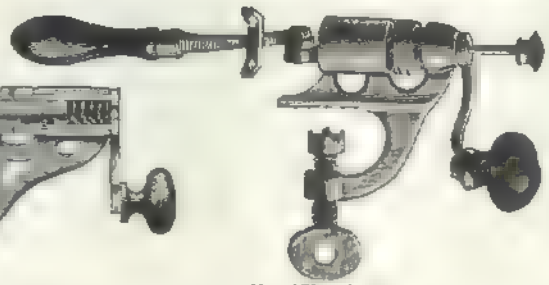


No 8, Hardy

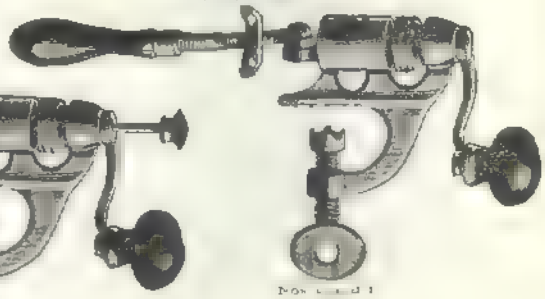


No. 1100 New





Nos 103 and 1103.



The Spangler Perfect Crimper

No.	DESCRIPTION	Each
	10 and 12 Gauge only, Green Japanned,	$ 1 65
	14 and 16 Gauge, Green Japanned,	1 85
1	10 and 12 Gauge only, Bronzed,	1 75
103	10 and 12 Gauge only, Japanned, with Expelling Pin,	1 75
1103	10 and 12 Gauge, Red Japanned, with Expelling Pin,	2 00
1103	16 Gauge, Red Japanned, with Expelling Pin,	2 00
1100-New	10 and 12 Gauge, Patent Straight Feed, suitable for all Lengths of Shell Red Japanned, New Style,	24 00

The Spangler Perfect Crimper

DESCRIPTION	Each
The Spangler Perfect Crimper	$ 2 50

This is a new Crimper and the manufacturers claim for it [illegible] better when the strength of the load may be [illegible] test of wad. This insures not only uniformity [illegible] to all users of Schultze, E. C. and Wood Powder.

The Handy Crimper.

No.	DESCRIPTION.	Each
	Handy, 10, 12 and 16 Gauge, Red Japanned, Nickel Plated Crimping Ring	$2 00

ONE IN A WORLD BOX

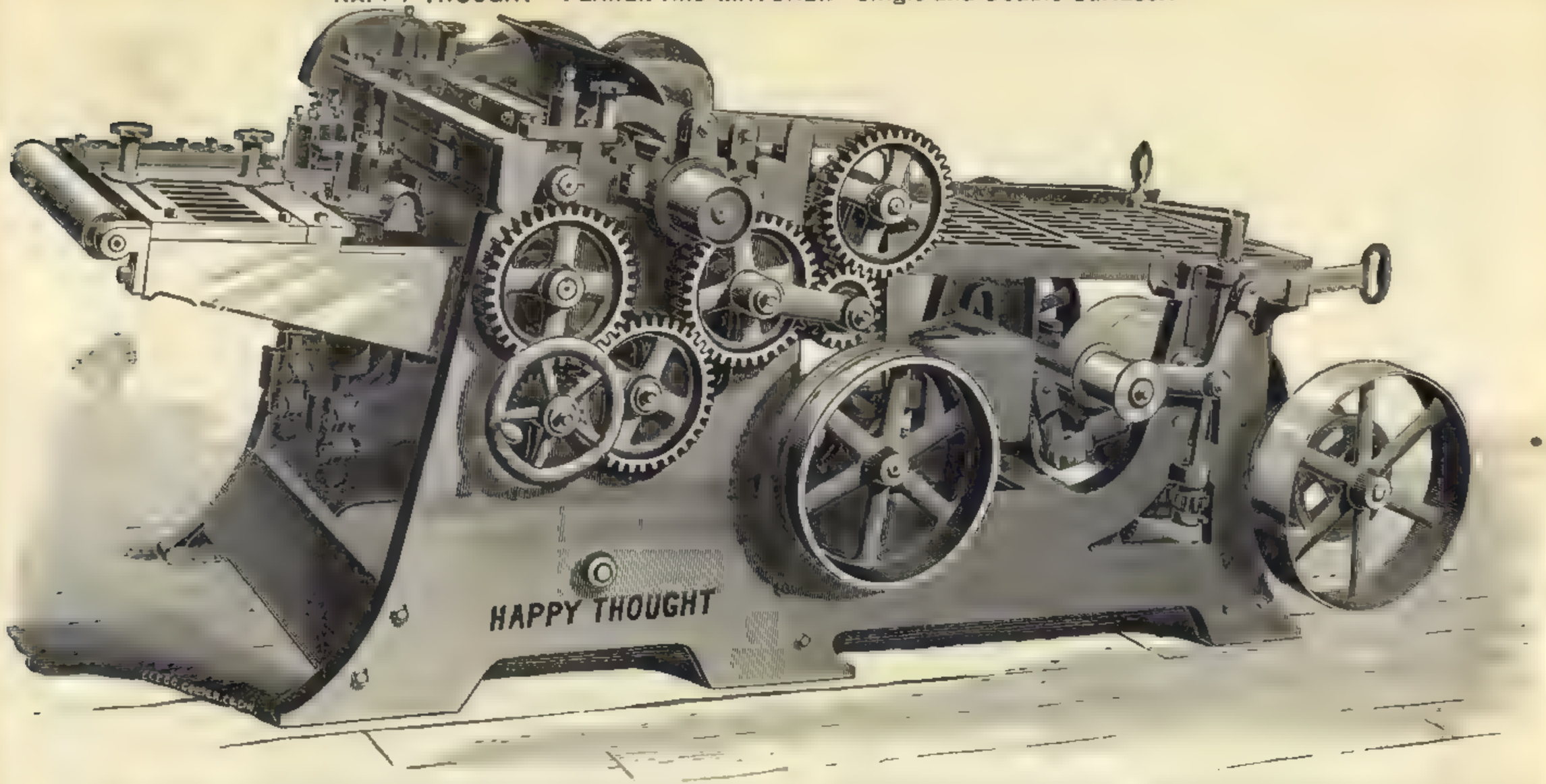
This Crimper is made by the Bridgeport Gun Implement Company, and is designed for the same purpose as the Spangler. It has the [illegible] and adjustments by reversing pins in the crimper head. It has [illegible] spring lever, which prevents shells spreading toward the center of wad. The lever has a steel pivoted grip which insures a straight, even feed.

The Ideal Hand Crimper.

DESCRIPTION	Each
The Ideal 10, 12 and 16 Gauge, Japanned	$1 00

The handiest little tool ever made. Can be carried in the vest pocket. Does perfect work. Weight 4 ounces.

"HAPPY THOUGHT" PLANER AND MATCHER—Single and Double Surfacer.



This machine is especially adapted for use in job planing mills; and for strong feeding, smooth planing, handy adjustments, excellent workmanship, and moderate price, it is unsurpassed. The cylinder is double belted, has extra long bearings, ample provision being made for lubricating. The side-heads are cast steel, and are adjusted to the different widths of stock by hand wheel on working side of machine. In changing from working flooring to surfacing, the yoked boxes holding the matcher spindles are allowed to swing below the bed.

The table is lowered and raised by means of a convenient crank. The feed rolls are all driven by improved expansion gearing. The front feed roll is held down by connected levers and weights, keeping it always level. The back roll is held by steel coil springs, making a strong and positive feed. There are two changes of feed.

We furnish two straight knives, 24 inches long, for the top cylinder, six steel bolts and nuts to fasten novelty knives, etc one pair of matcher heads, with one set of four solid matcher bits to work flooring; and all necessary wrenches.

Shimer patent matcher heads are furnished at additional cost.

Floor space, 4 ft. 10 in. by 8 ft. 6 in. Weight, 3400 lbs

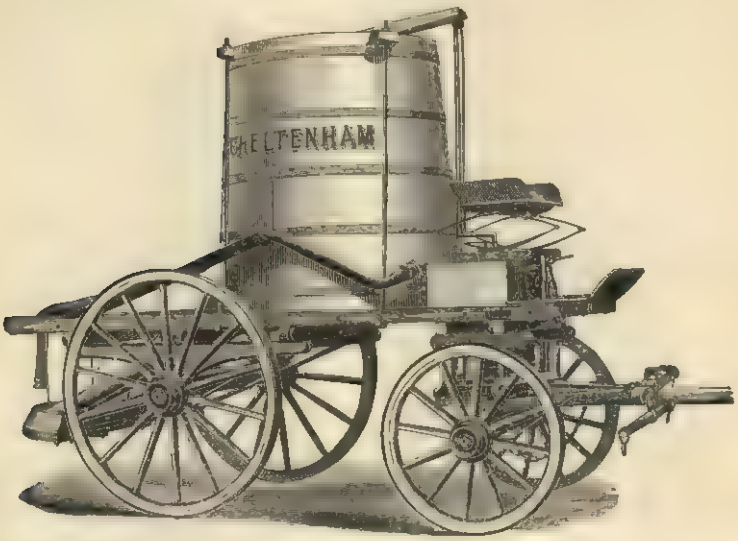
Tight and loose pulleys on counter shaft, 12 x 6, should make 900 revolutions per minute

Belts required: Two top head belts, 14 ft. 2 in. long by 3½ in. wide. Two matcher belts, 15 ft. 6 in. long by 3 in. wide. One feed belt, 10 ft. 4 in. long by 2 in. wide.

Price of Single Surfacer to plane 24 inches wide, 6 inches thick, and match 14 inches wide	$470 00
Price of Double Surfacer, same width	600 00

IMPROVED STREET SPRINKLING WAGONS.

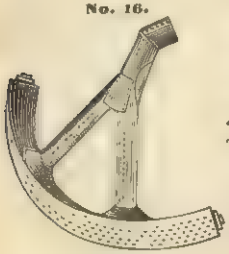
Furnished With and Without Running Gear.



This wagon is specially made for sprinkling tanks. The front wheels turn under the tank, enabling the wagon to turn within its own length. The oscillating king bolt allows the wheels to pass over obstructions, or to drop into depressions without wrenching the platform. We can furnish cheaper styles of wagons and carts, for two horses or one, or tanks only, with fixtures to be used on ordinary wagons. 3½ inch iron skein axles. Price complete, as in cut, $300.00.

FIXTURES FOR SPRINKLING WAGONS.

No. 16.



This cut shows inside of Tank with a No. 4 Valve and Spring, also Discharge Elbow No. 6.

No. 16 is our Elliptic Curved Sprinkler, with two 3-inch pipes, 4½ inch outlet, for leather connection with elbow; sheet metal end caps. Price, $20.00.

No. 4.

No. 4 is the simplest form of Discharge Valve. It is used with and without a spring. It has a leather face, which when worn can be easily replaced. The outlet is four inches in diameter. Price, $3.00. Extra for Spring, $1.00.

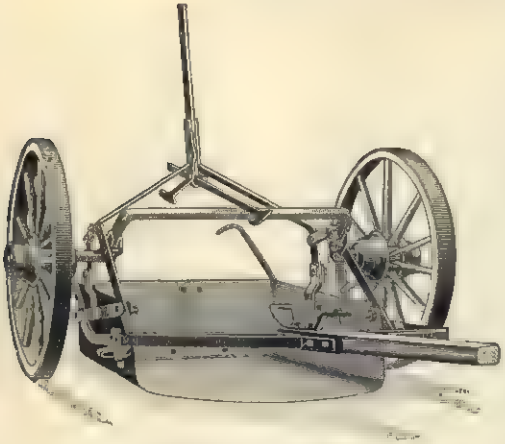
No. 1.

No. 1 is a filler connection used to attach hose for filling the tank through the top. It is threaded for 2½-inch hose coupling. Price, $2.50.

No. 2.

No. 2 is a Filling Valve to be set in the bottom of the tank, where filling is done from hydrant pressure. It can be used for an outlet valve when it is desired to use the wagon for watering trees, or other purposes than sprinkling. Threaded for 2½-inch hose. The valve and seat are ground, and no packing is required. Price, $4.50.

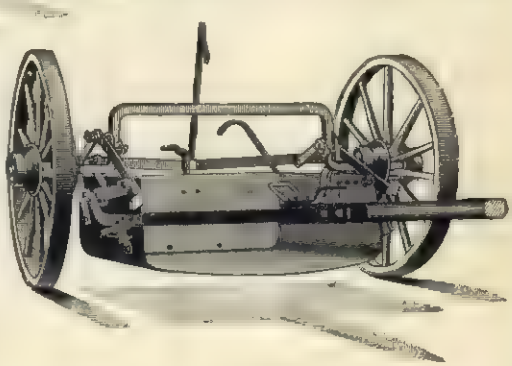
HASLUP'S IMPROVED WHEEL SCRAPER.



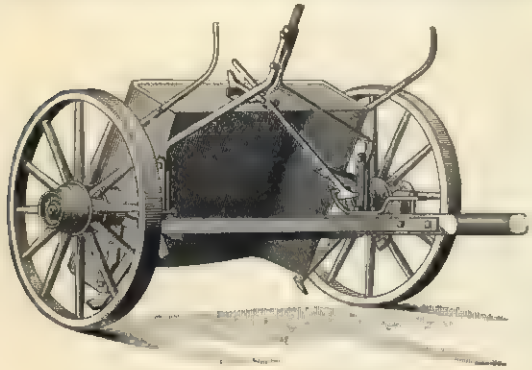
Position when Filling.

These popular scrapers offer many features of superiority over all others in the market. All hounds, lifting levers and working parts are made of steel. More Haslup scrapers are in use than of any other make. The box or pan is suspended both from front and rear of axle by means of a new patent steel lifting devi e, and no amount of use or shaking can move it or in any way affect it. There is nothing loose or shaky about it. The box is made of the best steel for the purpose, and is stiff, strong and durable. The entire weight of box and contents is carried on four bearing points—two on each side of box One of these supports extends to point of box, raising the front part to its proper height, and the other is just back of the axle, and raises the rear portion of the box Having the box supported in rear of axle, as well as in front, makes it much firmer, avoiding shaking and losing dirt when loaded, and being more evenly balanced, etc , easy on the horses' necks, making the easiest filling, easiest raising and dumping wheeler in the market.

The latching of the Haslup Wheeler does not require the effort that others do. It comes up readily and easily, and when near the point of hooking, all the work is done. There is no hanging on to the lever and dragging the wheeler holders along the ground. The latch is automatic, strong and durable, requiring no handling whatever. The hounds are made of steel, double braced; and cannot give, bend, nor break in any way. They are attached to the sides of the box near the center, giving the team great leverage power over the scraper when dumping. The front end of the link of our new steel lifting device terminates in a single lug, which, when the scraper box is placed in position for filling, comes in contact with an immovable stop on the hounds regulating the depth of take or fill, and successfully preventing dumping in any kind of soil, however hard or unplowed, or from contact with roots or stone This stopping device while automatic in its working is entirely free from springs, triggers or traps of any kind; cannot get out of order by he hardest usage; is made entirely of steel and perfectly durable The stops or lugs are so shaped that they cannot seal while loading They successfully bring the draft of the team to the point of the scraper when filling, and do not pull down on the horses' necks as hooks do These lugs do away with dangling hooks, which are constantly bending and breaking and coming in contact with obstructions upon returning to place of filling Our lugs have all the advantages of hooks, with none of the disadvantages



On the Road.



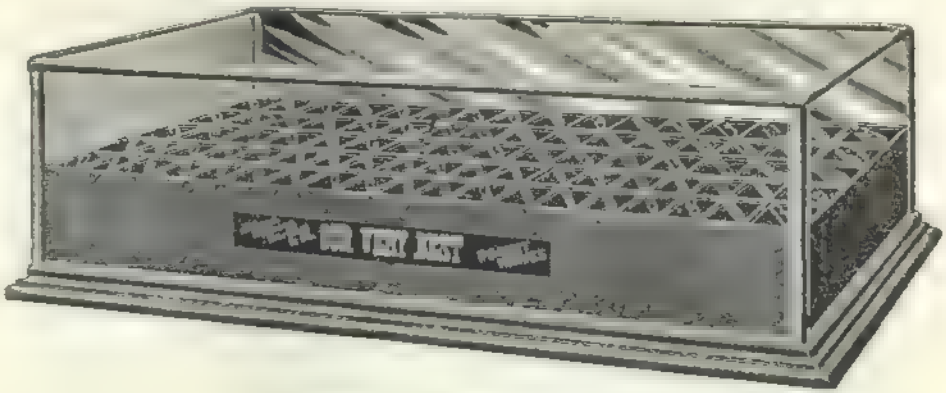
Position when Dumped

Our new lifting device is the most powerful and complete ever placed on a wheel scraper, has great advantages over all others, and needs only to be tried to be appreciated It is attached to the front and center of the box; the center attachment is back of the axle; the forward attachment brings up the point of the box to its proper height; the center attachment brings up the rear. This manner of raising a scraper divides the load, raising only one-half of it at a time, consequently it only requires one-half of the power to raise the Haslup Wheeler that it does to raise any other made, an important advantage Our lifting device is not complicated It is only a single lever. The raising is done rapidly and with one continued downward motion. One man can easily raise our No. 3 wheeler, loaded with sixteen or seventeen cubic feet of earth. We make three sizes. Order by number.

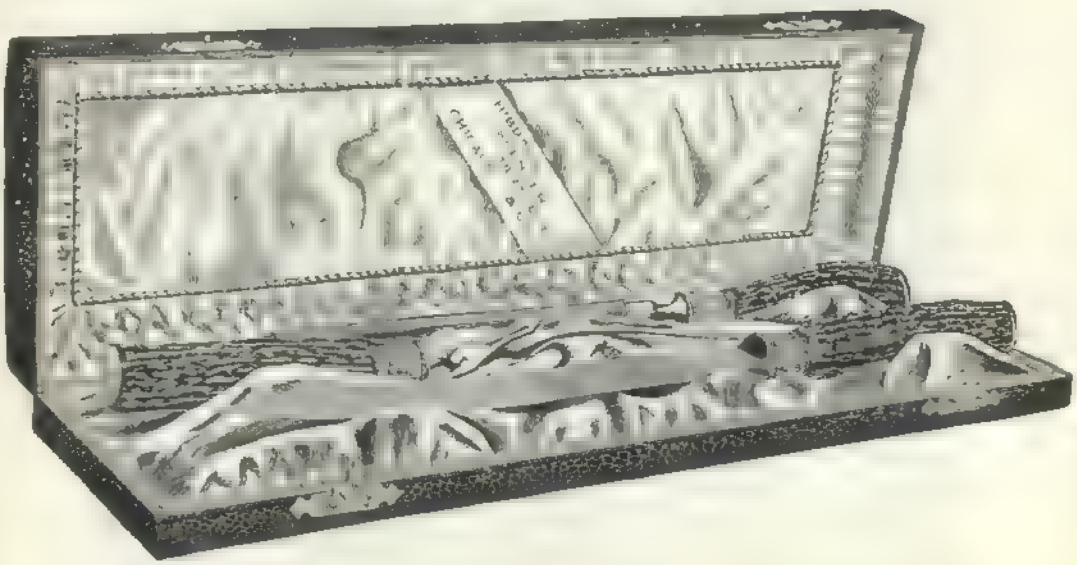
PRICE: No. 1, capacity 9 cubic feet; weight 375 lbs.; each $27 50. No. 2, capacity 13 cubic feet; weight 500 lbs.; $35 00. No 3, capacity 17 cubic feet; weight 650 lbs., $45 00.

"Our Very Best" Show Cases.

Elegantly Finished, Polished Cherry or Oak, and Double Thick Plate Glass.



Cases for Cutlery

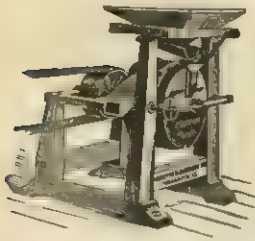


Cut Showing Style of Cases Only

NO.	DESCRIPTION.	EACH
100	Leatherette Case, Satin Lined, for Two Razors,	$ .75
101	Silk Plush " " "	2 25
102	Leatherette " " "Twelve Dessert Knives,	2 25
10[illegible]	" " "Medium "	2 25
10[illegible]	Silk Plush " " "	3 [illegible]
10[illegible]	Leatherette " " " Fork and Steel,	2 25
10[illegible]	" " " Pair [illegible] Pair [illegible] Carvers,	4 [illegible]
10[illegible]	Silk Plush " " " and Steel,	4 50
10[illegible]	" " " 1 Set [illegible]ch Carvers and 1 Pair of Game or Breakfast Carver [illegible],	7 5

FARM AND PLANTATION MILLS.

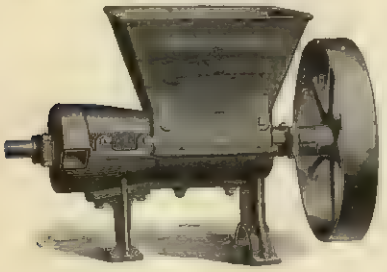
Awarded Highest Prizes at Cincinnati, St. Louis, New Orleans and Indianapolis Fairs and Expositions.



This style of Mill has been sold for the past 20 years. The grinding surfaces are of genuine French Burr dressed ready to grind. Will grind 10,000 bushels before redressing. Anyone can redress the faces after reading our directions. Stones are self-adjusting and can be operated and kept in order by any bright boy. It grinds family meal as well as feed. Makes excellent Graham flour. Grinds corn and oats mixed, without choking. Is connected by belt direct to the pulley on the engine or jack of horse power. We have thousands in use, and no customer will be disappointed after buying one. Wearing parts are steel. Journals are long and anti-friction. Beware of imitations. Every Mill Warranted.

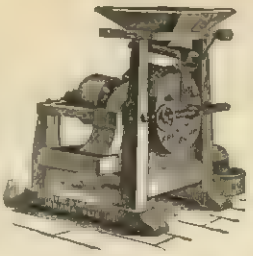
Diam. of burrs.	Power to Drive.	Size of Pulley.	Capacity per hour.	Rev. per Minute.	Weight	Price
14 in	2 to 4 h. p.	9x5¼	4 to 14 bu.	600 to 1200	370 lbs.	$100
18 in	4 to 10 "	11x6½	8 to 40 "	400 to 700	600 "	130

THE HOOSIER EAR CORN CRUSHER.



For crushing ear corn into coarse feed so it may be ground fine on a French Burr Mill. Requires but a 2-horse power. The cut shows the Crusher complete ready for business after the belt is connected. It can be driven by water power, steam engine, sweep or tread power, or wind mill. Its capacity is twenty to thirty bushels per hour. Size of pulley 14 inches diameter by 4½ inch face. It takes a 4 inch belt. Total weight of Crusher 240 lbs. Speed of pulley 350 to 400. Price $37 50. This Crusher is not recommended for making corn meal.

MILL AND SIFTER COMBINED.



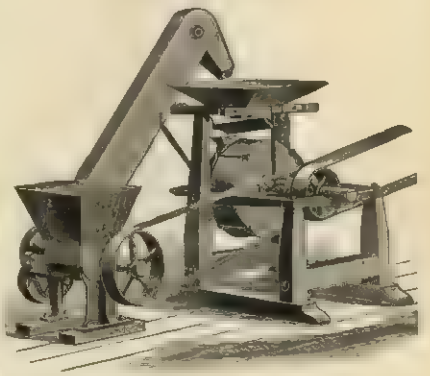
This cut shows our Plantation Mill, with a sifting bolt for bolting corn meal as it is ground Sifter is detachable when grinding feed Both mill and bolt take but one belt to drive. The 18 inch size only is equipped in this manner.

Weight, 625 lbs.

Price of 18 inch Mill, with Sifter $150 00

See table on side.

COB-MEAL OUTFIT.



This engraving shows a complete outfit for grinding all kinds of grain. It consists of a Hoosier Corn and Cob Crusher, and an 18 inch French Burr Farm Mill, with an elevator connecting the two. This is all driven by one belt. The ear corn is shoveled into the hopper of the corn crusher, in which there are two separate sets of breaking and grinding plates. These reduce the ear corn into coarse feed, and it is then discharged into the elevator and delivered to the French Burr Mill, by which it is ground very fine. In the meantime oats may be fed to the French Burr Mill, and mixed and ground with the corn and cob meal, all being discharged through a spout at the far side, not seen in the engraving.

Price, 18 inch Burr Mill	$130 00
Hoosier Crusher	37 50
Elevator	25 00

Eight horse power is the least that we advise. We can grind twenty to twenty-five bushels of cob meal, the same of oats, twelve to fifteen bushels of bread meal, five bushels of rye or buckweat in one hour with this outfit.

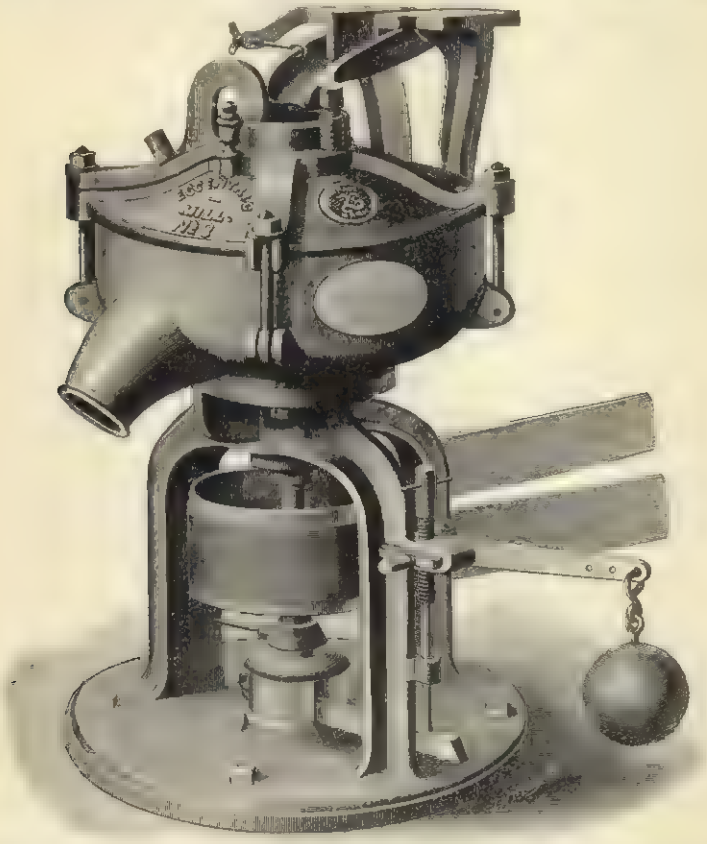
BOGARDUS' UNIVERSAL ECCENTRIC MILLS.

With Patent Improvements for Grinding Dry Substances.

Patented August 24th, 1886.

This mill is adapted to grinding Ores, Bones, Fire Brick, Crucibles, Drugs, Fertilizers, Sand and all similar materials.

Floor space 30 inches diameter. Diameter of pulley, 14 inches. Face of pulley, 8 inches. Height from floor to center of pulley, 17 inches. Height from floor to top of hopper, 53 inches. Opening in the top of the mill, 6 inches diameter. Weight, boxed, about 2,100.



This Mill is constructed on the same principle as the Original Bogardus Universal Eccentric Mills, but with many new improvements, making it much more powerful.

The bearings are entirely protected without the use of washers, so as to avoid any possibility of getting choked with dust or becoming heated.

The pan is so constructed as to discharge the material the moment it passes through the plates, and the construction of the shaft plate renders it impossible for any material to remain in the pan after being ground.

The hopper stand is so arranged as to enable the cover to be removed from the pan without disturbing the hopper.

The *base* of the mill weighs 750 pounds of itself, which overcomes the shaking usually occasioned by the mills of this capacity. Power required, about 10 horse.

Price.....$600 00

Send for circulars of Bogardus Mills for various uses.

WIRE AND IRON WORK

of all kinds

FENCING, CRESTING
STABLE FIXTURES

WINDOW GUARDS
WIRE SIGNS
WEATHER VANES
JAIL-CELLS

E. T. BARNUM
DETROIT, MICH.
Send for Catalogue

The SUNBEAM WASHING MACHINE

Will Not Steam the Room
Will Not Wear or Tear the Clothing
Easiest Running
Lighter in Weight than any Machine on the Market
Liberal Terms Made with Agents or Dealers to handle this Article
Write for descriptive price list

Sold f. o. b. Canton, Ohio

Eclipse Mfg. Co.

F. O. B. CARS, CANTON, OHIO

Established in 1870

We are the pioneers in our line, having been the first to introduce American Manufactured Goods in Europe. As we supply the Jobbing and Export trade only we will guarantee to see more goods than any six houses in our trade. Inventors and Manufacturers wishing to have their goods put on the European market please address

The Anglo-American Trading Co.

15, WOOL EXCHANGE
Basinghall St. LONDON, ENGLAND

TOLEDO MACHINE & TOOL CO.,

Manufacturers of

PRESSES, DIES,

AND

Special Machinery

for all kinds of

Sheet Metal Work.

Send for Catalogue and Prices

Jackson Ave.,

No. 3 Press. TOLEDO, OHIO

WARREN'S WARRANTED EDGES.

CARVER
CARVER FORK,
BREAD KNIFE

OUR CLAIMS

NEAT,
LIGHT,
DURABLE,
LOW PRICE,
HIGH QUALITY,
WARRANTED

Price, fifty cents per set. Postage, 15 cents.
Send for circular and price to the trade.

WARREN and COMPANY
SHELBURNE FALLS, MASS., U. S. A.

A. H. DICKEY
MANUFACTURER
Stencils, Steel Stamps,
Seals, Metal Labels,
Brass Checks, Etc.

STENCILS

Punch
Press Work

Write for Catalogue

314 SENECA ST.
CLEVELAND, OHIO

THE CONROY
Refrigerator Door Fastener.

The best and cheapest on the market.

Beware of Infringements

Patented 1885

Used by the largest refrigerator manufacturers in the country

MANUFACTURED BY

P. J. CONROY, PASCHALL P. O. PHILADELPHIA, PA.

HOWARD IRON WORKS
BUFFALO, N. Y

Manufacturers of

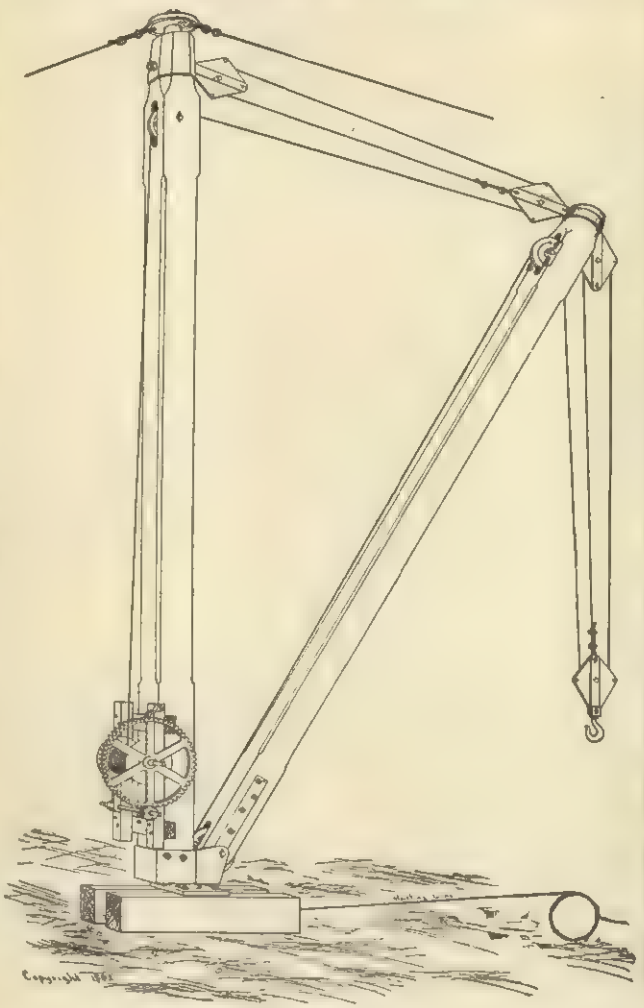
BENCH VISES

Send for Price List

IMPROVED PATTERN GUY DERRICKS

Rigged for Single Drum Power. With Hand Power Boom Hoister. To be Used with a Single Drum Hoisting Engine or Horse Power.

This style of derrick having a crab on the back of the mast, enables the boom to be easily handled while loaded. The hoisting line passes over a sheave which runs loosely on the axle supporting the upper end of the boom. This arrangement prevents any possibility of the boom when in nearly a vertical position, suddenly drawing over to the mast as the draft is always downward. In erecting the derrick, plumb the mast sideways but not crow the top of the mast to lean forward towards the boom about six inches. But very little woodwork is required in fitting up this class of derrick. Blocks and sheaves are for wire rope—can rig them with one or more lines for manilla rope if desired.



Derrick Irons consist of following (illustrated on page 313): 1 Mast Bottom, fig. 214; 1 Mast Top, fig. 297—side straps, single sheave; 4 clips and Thimbles for blocks; 1 Boom Ring without links, fig. 116; 1 Boom Sheave and Bolts, fig. 117, all necessary bolts.

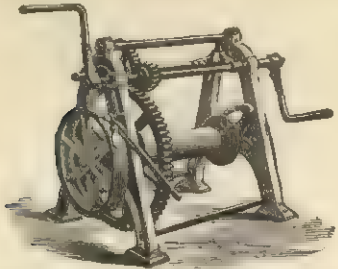
In ordering state greatest load desired to lift, length and size of boom, length and size of mast, desirable number of guys and their length, which on level ground is three times the height of the mast, style of engine or horse power which will be used.

Fig. 137.

	10 in. Mast.	12 in. Mast.	14 in. Mast.	16 in. Mast.
Price of full set of Derrick Irons	$47 00	$67 00	$84 00	$104 00
Price of 4 Single Wire Rope Blocks, 11 in. with Plain Hook	27 20			
Price of 4 " " " " 14 in. " " "		32 80	42 80	
Price of 2 Double and 2 Single Wire Rope Blocks, 16 in. with Plain Hook				44 70
Price of Wire Rope Crab	No. 12 p. 311 $33	No. 9 $60 (Not Illustr'd)	No. 9 $60 (Not Illustr'd.)	No. 9 $60 (Not Illustr'd.)
Boom to have 4 Truss Rods when longer than	30 ft.	40 ft.	40 ft.	45 ft.

Guys and Running Ropes will be charged at market rates. They can only be figured when length of mast is decided

HOISTING CRABS—Double Purchase.



One-fifth the weight can be lifted direct from the barrel. Crank shaft thrown out of gear, when lowering, prevents handles flying around.

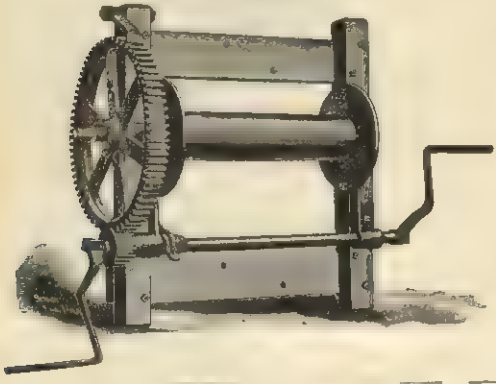
No.	Tons.	Price with Brake.	Price without Brake.	No.	Tons.	Price with Brake.	Price without Brake.
10	4	$45 00	$40 00	14	12	$ 82 00	$ 73 00
11	6	50 00	45 00	15	15	104 00	94 00
12	6	60 00	55 00	16	18	132 00	118 00
13	9	70 00	65 00	17	24	180 00	160 00

CONTRACTOR'S DOLLY—Made to Order.

Oak or Ash Frame

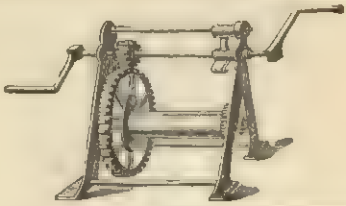
Gas pipe or hardwood roller, price..... $7 00

SINGLE DRUM CRAB FOR WIRE AND MANILA ROPE.



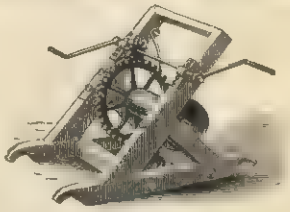
No.	Gear	Drum	Frame	Weight	Strain on Single Line both Cranks.	Price with Oak Frame
12	[illegible] & 4	14 x 18	26 x 47	400	1½ tons.	$45 00

SINGLE PURCHASE HOISTING CRABS.



No.	Capacity.	Price with Brake.	Price without Brake.
1	2 tons.	$32 00	$ 27 00
2	3 tons.	35 00	30 00
3	4 tons.	40 00	35 00
4	5 tons.	45 00	40 00
5	6 tons.	52 00	47 00
6	9 tons.	62 00	57 00

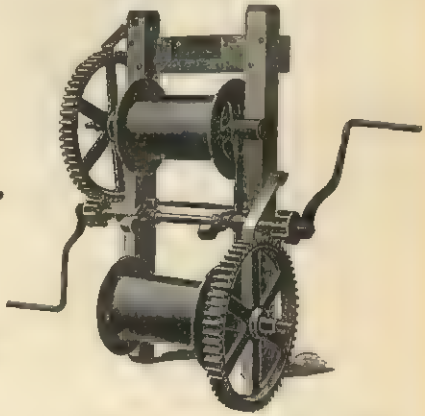
CONTRACTORS' HOISTING CRAB.



No. 1 Crab has 20 inch Gear, 5 inch Pinion, 6 inch Drum.....$30 00

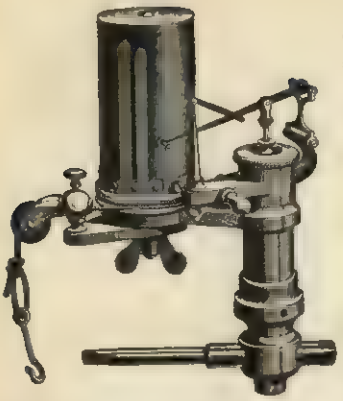
No. 2 Crab has 24 inch Gear, 6 inch Pinion, 7 inch Drum..... 35 00

DOUBLE DRUM CRAB FOR WIRE AND MANILA ROPE.



No.	Gear	Drum	Frame	Weight	Strain on Single Line both Cranks.	Price with Oak Frame.
8	30 & 4	10 x 18	26 x [illegible]	700	1½ tons	$80 00

IMPROVED THOMPSON INDICATORS.



The Thompson Improved Indicator is standard among engineers. This instrument is equally adapted to high and low speed engines, and to all pressures. It can be attached with little trouble, and has a great range of adjustment. It is provided with a Stop Motion, is made right and left hand, as wanted, and can be furnished with Thompson's New Detent Motion, whereby the paper cylinder can be stopped and cards changed without detaching the connecting rod. Complete description furnished on application.

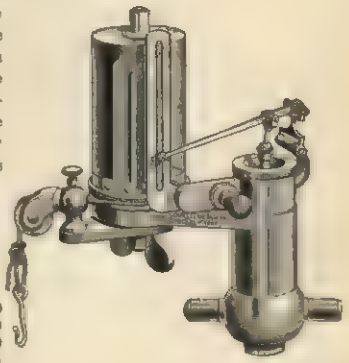
PRICE LIST.

Thompson Indicator, Standard Size, brass, nickel-plated, and highly finished, with two straight-way cocks, three springs of various pressures, and corresponding scales, 100 metallic paper cards, a screw driver, a bottle of oil, and an extra drum spring	$85 00
The same, made of steel, nickel-plated, for ammonia use	120 00
Extra springs, each	5 00
Extra boxwood scales, each	75
Extra paper cards, one side metallic, per 100	1 00
Extra paper cards, both sides metallic, per 100	1 25
Linen cord, warranted not to stretch, per hank of 30 feet	50
Straight-way cock, nickel-plated, for steam	4 00
Straight-way cock, nickel-plated, for ammonia	7 50
Three-way cock, nickel-plated, for steam	7 50
Three-way cock, nickel-plated, for ammonia	12 00
Detent Motion	3 00

We furnish with each Indicator, free of charge, a copy of "Indicator Practice and Steam Engine Economy," by Frank F. Hemenway. Price of book alone, $2.00, net.

THE "LYNE" INDICATOR.

This instrument is recommended as equal in most respects to the highest price indicators in the market. It is introduced to the trade as a moderate priced machine, after several years of successful use in the hands of the inventor and other leading engineers. It is made throughout of the best material, and with the highest grade of workmanship. While we do not recommend it as fully equal to the Thompson Indicator, we can guarantee it to give satisfaction in any service, and we offer it at a price which should place it in the hands of every competent engineer.



PRICE LIST.

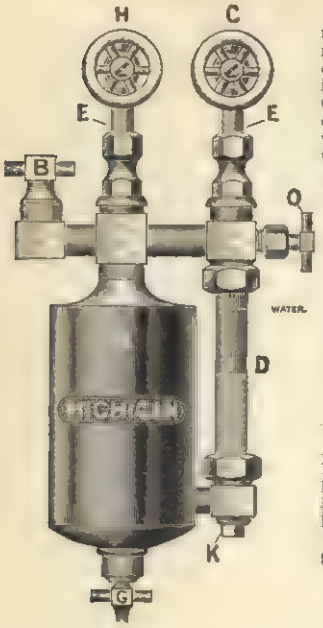
"Lyne" Indicator, small pattern, brass, nickel-plated, and highly finished, with two straight-way cocks, three springs for various pressures, and corresponding scales, 100 metallic paper cards, a screw driver, a bottle of oil, and an extra drum spring	$60 00
Extra springs, each	4 00
Extra boxwood scales, each	50
Extra paper cards, one side metallic, per 100	75
Extra paper cards, both sides metallic, per 100	$1 00
Linen cord, warranted not to stretch, per hank of 30 ft.	50
Straight-way cock, nickel-plated	3 00
Three-way cock, nickel-plated	6 00

We furnish with each indicator, free of charge, a copy of "Indicator Practice and Steam Engine Economy," by Frank F. Hemenway. Price of book alone, $2.00, net.

INDICATOR SPRINGS AND SCALES.

To adapt indicators to any pressure, springs are made to the following scales: Nos. 4, 8, 12, 16, 20, 30, 40, 50, 60, 80, 100. The number of the spring represents the pressure in pounds per square inch required to compress it sufficiently to move the pencil vertically one inch on the diagram, therefore, by dividing the boiler pressure in pounds by the desired height of diagram in inches, the result will be the number of the spring required. We recommend not more than 1¾ inches movement of pencil. Every spring is adjusted and tested under steam pressure.

THE MICHIGAN KEROSENE OIL FEEDER, FOR STEAM BOILERS.



This is the most successful and thoroughly improved device in the market for feeding kerosene oil into steam boilers, to prevent and remove scale. Refined kerosene as a scale solvent has come into extensive use among engineers. It is estimated that scale $\frac{1}{10}$ of an inch thick will cost a 15 per cent. increase in fuel, $\frac{1}{4}$ of an inch will cost 60 per cent., and $\frac{1}{2}$ of an inch 150 per cent. The advocates of the use of kerosene oil as a preventive claim that no scale can form in a boiler where from seven to ten drops per minute are injected with the feed water.

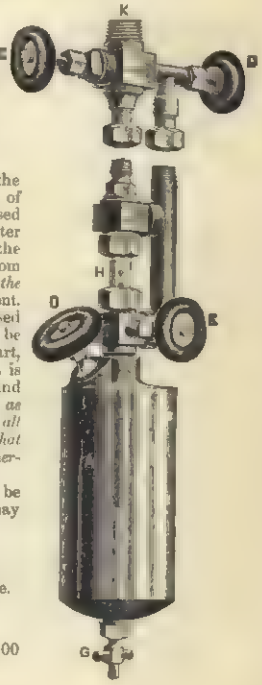
The Michigan Oil Feeder is a self-controlling and perfectly well regulated device for the purpose.

Description of Cut.

C —Connection for water pipe of boiler on the pump or injector side of the check.
H —Connection for water pipe of boiler on the boiler side of the check.
E, E—Unions to connect or detatch the oil feeder.
B —Filler plug.
O —Feed regulating valve.
G —Drain valve.
D —Combined sight feed and gauge glass.
K —Plug through which to insert or clean glass.
A —Oil reservoir.

Quantity.	Bronzed.	Finished Brass.
1 pint	$18 00	$24 00
1 quart	24 00	30 00
½ gallon	32 00	40 00
1 gallon	52 00	64 00

DETROIT KEROSENE OIL FEEDER, FOR STEAM BOILERS.



For the introduction of kerosene oil into boilers. For the removal and prevention of scale. Insures a clean boiler, prevents accidents, and saves fuel, besides greatly prolonging the life of the boiler and adding to its efficiency. Satisfactory results guaranteed. Sent out on 60 days' trial to responsible parties.

How to Attach.

If a pump is used for feeding water to the boiler, attach the oil injector to the feed pipe, between the pump and the boiler, and preferably on the boiler side of the check valve. A straight-way valve (never a globe valve) should be used between the oil injector and the feed pipe. If an injector is used to supply water to the boiler, the oil injector may be attached either to the steam supply or to the water feed. When attachment is made to a horizontal pipe, the connection from the oil injector should always be made to the *under side of same*, and *never into the top*, as kerosene will not pass downward through water unless forced by a current. When attachment is made to a perpendicular pipe, an angle valve may be used instead of a straight-way. The horizontal part of the connecting pipe should be as short as possible, and it is well to have it a size larger than the upright part, which can be effected by the use of a reducer. Where a special attachment is required, send a rough diagram, giving location of boiler, pump and feed pipe, and we will suggest best method of attachment. *It should always be remembered that as kerosene is extremely sensitive to pressure and will not pass downward through water all the pipes used in connecting the oil injector to the feed pipe should be so arranged that the route of the kerosene to the feed pipe will always be in an ascending direction, otherwise it will trap and back down.*

From 6 to 10 drops per minute, at a cost of about 1 cent per day, will be sufficient for most boilers, except when badly scaled, when a larger quantity may be used. The injector will be sent in two parts, as shown in cut.

Description.

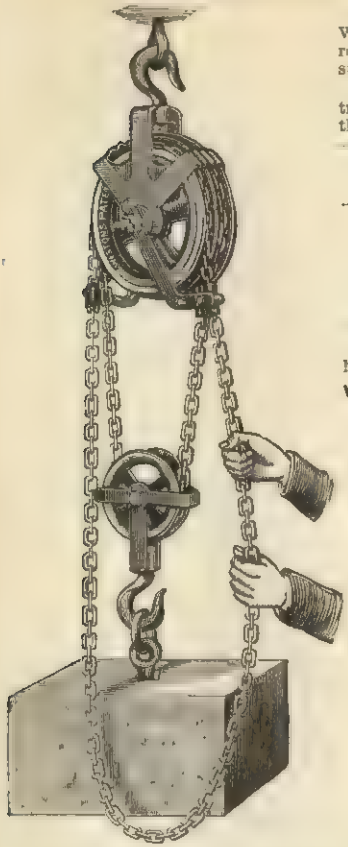
A —Oil reservoir.
C—Valve to oil passage.
H—Sight-feed glass.
K—1 in. con. to steam or water pipe.
O—Filling plug.
D—Water valve.
E—Regulating valve.
G—Drain valve.

Price List.

Pint.....$15 00 Quart..... $20 00 Half gallon....$25 00 Gallon...$30 00

Prices for larger sizes furnished on application.

IMPROVED WESTON DIFFERENTIAL PULLEY BLOCKS.—WITH GUIDE.



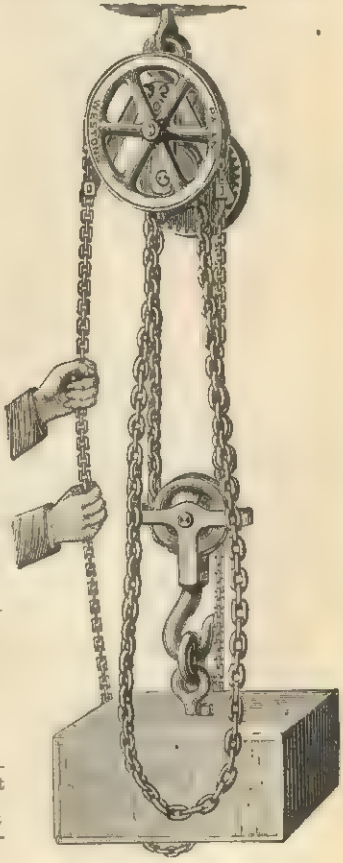
The cut shows an improved pattern of the well-known Weston Block, occupying less space than the old style, but retaining its gr at power and its feature of holding the load suspended at any point.

It is fitted with patent Chain Guides, which prevent the troublesome locking of chains. This arrangement also enables the Block to be used either horizontally or at any desired angle.

Capacity.	Price Complete.	Regular Chain in Block.	Will Lift.	Extra Chain Per foot.
½ Ton.	$13 00	22 ft.	8 ft.	36 cts.
¾ "	15 00	26 "	7 "	38 "
1 "	20 00	30 "	8 "	40 "
1½ "	25 00	33 "	8½ "	42 "
2 "	30 00	36 "	9 "	44 "
3 "	40 00	38 "	10 "	48 "

The Length of the Chain required is about four times the height of lift.

WESTON GEARED DIFFERENTIAL PULLEY BLOCKS.



WESTON GEARED BLOCKS.—Have all the essential features of the plain Differential pattern shown above, but have largely increased power at the expense, however, of the lifting speed, which is correspondingly slower.

Capacity in Tons.	To Lift.	Net Weight.	PRICE Complete with Chains, regular len'ths	PRICE of Extra Main Chain Per foot.
1	8 feet.	62	$ 35 00	$ 40
2	9 "	109	45 00	44
3	10 "	159	60 00	48
4	11 "	257	80 00	54
5	12 "	324	110 00	60
6	13 "	493	150 00	70
8	14 "	735	210 00	85
10	16 "	1054	275 00	1 00

The length of Lift Chain required is twice the height of Lift plus 6 feet.

The length of Hand Chain required is twice the height of Lift

Weights, measurements, and powers must be taken as approximate.

HARCOURT'S REGULAR INSIDE IRON STRAPPED BLOCKS.

With Loose Hooks, Iron Sheaves, With and Without Beckets.

Single. Double. Triple. Triple.

Dimensions			Iron Bushed			Improved Roller Bushed.			Phosphor Bronze or Metaline Bushed.		
Size Shell	Size Sheave.	For Dia. Rope	Single.	Double	Triple.	Single.	Double	Triple	Single.	Double.	Triple.
3 inches	1¾ x ⅜ x ⅜	⅜	$0 70	$1 30	$1 75	$1 10	$2 00	$2 90	.....	.....	.....
3½ "	2 x ⅜ x ⅜	⅜	75	1 45	2 00	1 15	2 20	3 15			
4 "	2¼ x ⅜ x ⅜	⅜	85	1 60	2 15	1 20	2 25	3 25	$1 50	$2 90	$4 12
5 "	3 x ⅜ x ⅜	⅜	90	1 75	2 25	1 25	2 35	3 50	1 75	3 35	4 75
6 "	3½ x 1 x ½	⅝	1 10	2 00	2 90	1 50	2 85	4 40	2 20	4 00	5 80
7 "	4 x 1 x ½	⅞	1 30	2 40	3 50	1 70	3 35	5 00	2 50	4 50	6 70
8 "	4½ x 1⅛ x ⅝	1	1 65	2 85	4 25	2 25	4 15	6 00	3 25	5 70	8 50
9 "	5 x 1⅛ x ⅝	1	1 85	3 40	4 75	2 50	4 70	7 25	3 70	6 75	10 00
10 "	6½ x 1 x ¾	1⅛	2 75	4 50	6 25	3 50	6 00	8 50	4 75	8 50	12 50
11 "	7½ x 1 x ¾	1⅛	4 45	7 50	10 65	5 30	9 20	13 20	6 75	12 50	18 50
12 "	8 x 1⅛ x ¾	1⅛	4 45	7 50	10 65	5 30	9 20	13 20	6 75	12 50	18 50
13 "	9 x 1⅛ x ¾	1⅛	7 00	10 50	15 00	8 15	12 80	18 45	9 75	17 00	25 00
14 "	9½ x 1⅝ x ¾	1⅜	7 00	10 50	15 00	8 15	12 80	18 45	9 75	17 00	25 00
15 "	10 x 1⅝ x ⅞	1⅜	8 00	13 00	18 00	9 25	15 50	21 75	11 00	19 50	28 50
16 "	11 x 1⅝ x ⅞	1⅜	10 00	15 00	22 00	11 50	18 00	26 50			

SNATCH BLOCKS FOR MANILA ROPE.

Our Wrought Steel Snatch Blocks Have Rounded Edges to Prevent Cutting the Rope.

Size Sheave.	For Diam. Rope.	Size Shell.	Iron Shell. Iron Bushed.	Iron Shell. Phosphor Bronze or Metalline Bushed.	Wood Shell. Iron Bushed.	Wood Shell. Phosphor Bronze or Metalline Bushed.
3 x1½x ⅜	⅞	6 inches.	$ 5 00	$ 5 50	$ 4 00	$ 5 25
3½x1½x ⅜	⅞	7 "	5 50	6 50	4 75	6 00
4½x1¾x ⅝	1	8 "	7 00	7 65	5 75	7 25
5 x1⅝x ⅝	1⅛	9 "	8 00	9 00	6 75	8 50
5½x1⅞x ⅝	1⅛	10 "	9 00	10 50	8 50	11 00
6½x2 x ¾	1⅛	12 "	11 50	13 00	10 00	13 00
8 x2½x ¾	1¾	14 "	15 00	16 25	13 00	16 50
9 x2⅝x1	2	16 "	20 00	21 75	17 00	22 00
10 x3 x1	2¼	18 "	25 00	28 00	25 00	31 00
11 x3½x1¼	2⅝	20 "	36 00	39 50	33 00	46 00
11½x4 x1½	3	22 "	52 00	60 50	55 00	68 00
12½x4½x1½	3¼	24 "	72 00	85 00	70 00	86 00

Wrought Steel Shell.

Wood Shell with Automatic Link.

Our new WOOD SHELL AUTOMATIC BLOCK is superior to any other.

The link is kept in position by a hard rubber bearing under it, and will instantly return, when pulled out to unlock the hook. It is impossible to shake the link open.

Ithaca Hammer Guns.

Top Lever, Low Hammers, Rebounding Locks, Extension Rib, Pistol Grip, Interchangeable Parts, Self-fastening Fore-end and Choke Bored.

NO.	DESCRIPTION	EACH.
A	12 Gauge, Fine English Twist Barrels, American Walnut Stock, Pistol Grip, Checkered, 30 and 32 inches, 8 to 9 lbs.,	$35 00
OA	10 Gauge, same description as No. "A," 30 and 32 inch Barrels, 9 to 10½ lbs.,	35 00
B	12 Gauge, Fine Damascus Steel Barrels, English Walnut Stock, Pistol Grip, Checkered, 30 and 32 inches, 8 to 9 lbs.,	50 00
OB	10 Gauge, same description as No. "B," 30 and 32 inches, 9 to 10½ lbs.	50 00

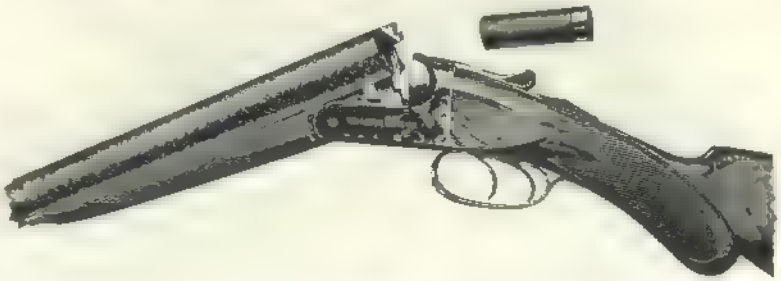
Ithaca Hammerless Guns.

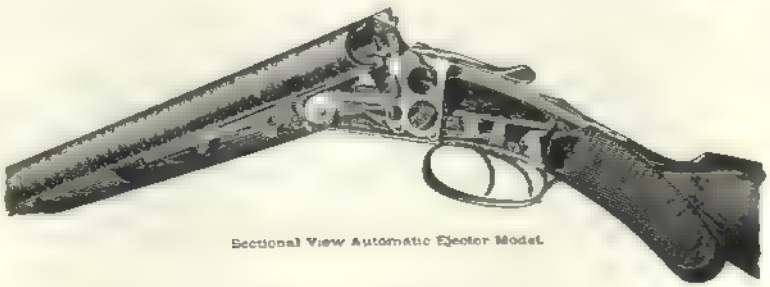
Made of the Best Materials and Warranted in Every Part Shooting Included.

NO.	DESCRIPTION.	EACH.
1661½	Quality No. 1, 12 Gauge, Fine English Steel Twist Barrels, American Walnut Stock, Pistol Grip, Checkered, 28 and 30 inch Barrels. Weight, 6½ to 7½ lbs.,	$50 00
61½	Quality No. 1, 12 Gauge, Fine English Steel Twist Barrels, American Walnut Stock, Pistol Grip, Checkered, 30 and 32 inch Barrels. Weight, 7½ to 8 lbs.,	50 00
081½	Quality No. 1, 10 Gauge, Fine English Steel Twist Barrels, American Walnut Stock, Pistol Grip, Checkered, 30 and 32 inch Barrels. Weight, 9 to 10 lbs.,	50 00
62½	Quality No. 2, 12 Gauge, Fine Damascus Steel Barrels, English Walnut Stock, Pistol Grip, Checkered, 30 and 32 inch Barrels. Weight, 7½ to 9 lbs.,	60 00
082½	Quality No. 2, 10 Gauge, Fine Damascus Steel Barrels, English Walnut Stock, Pistol Grip, Checkered, 30 and 32 inch Barrels. Weight, 9 to 10 lbs.	60 00

One of the many improvements in the manipulation of the Ithaca Hammerless Gun is the attachment of our cocking device, which enables us to put on and remove barrels at a glance, same as a Hammer Gun, without reference to the gun being cocked or not, thus avoiding the necessity of the continued tension on the main springs when the gun is not in use, or obliging one to cook it before replacing the barrels. The locks are rebounding, and thus avoid the danger of firing pins pressing upon the primers with full force of the main spring, when the gun is not cocked, which is true of no other Hammerless Gun. It is also provided with the combined automatic and independent safety, which can be changed from automatic to independent by a touch of the thumb, and vice versa, which enables one in rapid firing to use his gun independent of the safety, if desired.

Remington Hammerless Guns.





Sectional View Automatic Ejector Model.

Non-Automatic Ejector

NO.	DESCRIPTION	EACH
A	12 Gauge, Two Stripe Damascus Barrels, Plain Finish, English Walnut Stock,	$45 00
OA	10 Gauge, Same Description as No. A,	45 00
B	12 Gauge, Fine Three Stripe Damascus Barrels, Line Engraving, Fine English Walnut Stock,	60 00
OB	10 Gauge, Same Description as No. B,	60 00
C	12 Gauge, Finest Damascus Barrels, Scroll Engraving, Fine English Walnut Stock, Silver Name Plate,	90 00
OC	10 Gauge, Same Description as No. C,	90 00

With Automatic Ejector

NO.	DESCRIPTION	EACH.
AE	12 Gauge, Two Stripe Damascus Barrels, Plain Finish, English Walnut Stock,	$ 67 50
OAE	10 Gauge, Same Description as No. AE,	67 50
BE	12 Gauge, Fine Three Stripe Damascus Barrels, Line Engraving, Fine English Walnut Stock,	82 50
OBE	10 Gauge, Same Description as No. BE,	82 50
CE	12 Gauge, Finest Damascus Barrels, Scroll Engraving, Fine English Walnut Stock, Silver Name Plate,	112 50
OCE	10 Gauge, Same Description as No. CE,	112 50

12 Gauge, 28, 30, [illegible] 8½ to 8½ pounds. Drop, 2¼ to 2½ inch.
10 Gauge, 30, 32 inch, 8½ to 10 pounds. Drop, 2¼ to 2½ inch.

General Description of all Grades.

Damascus Barrels, Choke-Bored, English Walnut Stock, Half Pistol Grip, Rubber Butt-Plate, Checkered Fore-end, Case Hardened Frame and Mountings, Automatic Recoil Block, Front, Fore-end Snap, Triple Bolt, Top Snap, Extension Rib with Bite, Flat Matted Rib.
Ejector Guns have Independent Automatic Shell Ejector.

Ready for 1896 with the

IVER JOHNSON CYCLE

QUALITY, MATERIAL and WORKMANSHIP of the FINEST. A Cycle of the HIGHEST GRADE and has EVERY IMPROVEMENT

WE WANT AGENTS FOR 1896

Write for Catalogue and Agency Discounts

IVER JOHNSON'S ARMS AND CYCLE WORKS

C. J. GODFREY, 11 Warren St., New York
General Agent for N. Y., N. J. and Pa.

FITCHBURG, MASS.

BUFFALO FORGES.

AMERICAS BEST. THE WORLD'S STANDARD

BUFFALO FORGE CO. BUFFALO, N.Y. U.S.A.

HOW MANY

Really Artistically Painted Houses are there in your town? Have you ever stopped to reflect that a well painted store or dwelling is the very best kind of an ad?

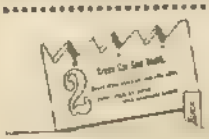
CATCH THE EYE.....

and you stir up the mind, and often the pocket. Our Sample Cards TALK; they make ugly homes impossible. It will pay you to see them and to get our Dealers' Discount.

JOHN LUCAS & CO.

PHILADELPHIA :: NEW YORK :: CHICAGO

Paint and Varnish Manufacturers



Something New – Sample 10 Cts.

HOW TO FILE A SAW

We have prepared an object teaching method showing the art of **Filing and Setting** all kinds of Wood Saws, put up in a manner suitable for sale in hardware stores. We want to sell to any dealer, who will write us, a sample outfit and full description with trade prices. This is an entirely new deal and worth sending a postal to find out all about it.

Address J. KOCH & SONS, Mfrs., Brookline, Mass

HERE YOU HAVE IT

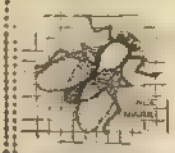
The Only One of its Kind

Nothing is good enough as long as it can be improved. That is the basis upon which we built the

Metal Folding Bath Tub with Water Heater Attached

All the latest and best ideas are incorporated in its construction. Every feature to promote **convenience and durability.** The **ornamental design** is harmonious and beautiful, and is a **pleasing combination.** Send for a sample if you want a **Trade Winner and Money Maker.** We are manufacturers of a complete line of **Cabinet Folding Bath Tubs; also Stationary and Sanitary Baths** of all kinds. Write for a Catalogue. It will cost you nothing

FOLDING BATH TUB CO., Marshall, Mich.



No Flies

IN A HOUSE WITH OUR

WIRE SCREENS

LARGEST FACTORIES IN THE WORLD.

SPECIALTY:

SCREENING HOUSES TO ORDER

WE PAY FREIGHT.

WRITE FOR CATALOGUE.

THE E. T. BURROWES CO.

PORTLAND, ME.

OFFICES IN ALL LARGE CITIES.

THE COLUMBIAN

Faucet Can

FOR OIL AND GASOLENE

The Latest, Most Perfect, Most Complete and withal the Simplest Can ever put upon the Market

Patented March 15th, 1892, and June 5th, 1894

.....A FAUCET CAN WITHOUT DRIP OR WASTE

MANUFACTURED BY

HART MANUFACTURING CO.

TROY, N. Y.

JONES' PATENT

Folding Plant Stands

Made of **Steel** and **Wire,** with **Wire** or **Wood Shelves**

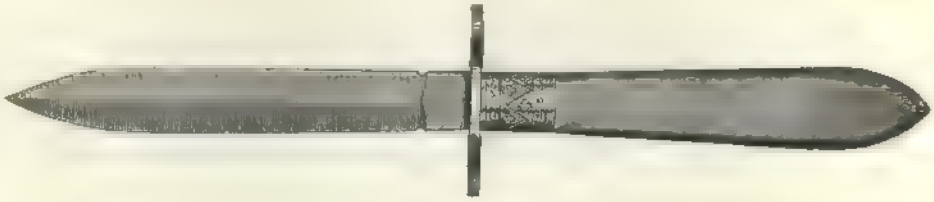
Low in Prices and Durable

Packed close for shipment, two or four in a crate. Send for new Price List

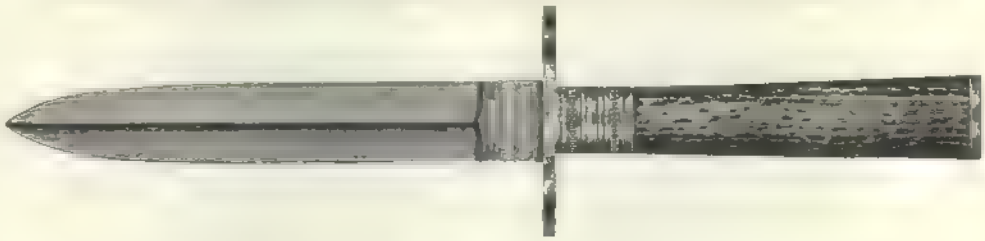
M. D. JONES & CO.

368 Washington Street, BOSTON

Daggers.



No.	DESCRIPTION.	PER DOZEN.
1	Solid Pearl Handle, Double Edge, Cross Polished.	$24 75

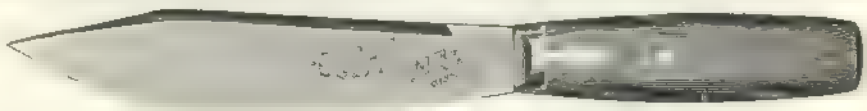


No.	DESCRIPTION	PER DOZEN
120–S	Genuine Stag Handle, Cross Polished	$18 50

HALF DOZEN IN A BOX

Hunting Knives

No.	SIZE.	DESCRIPTION.	PER DOZEN.
1630	6 inches.	Scored Cocoa Handle.	$8 50

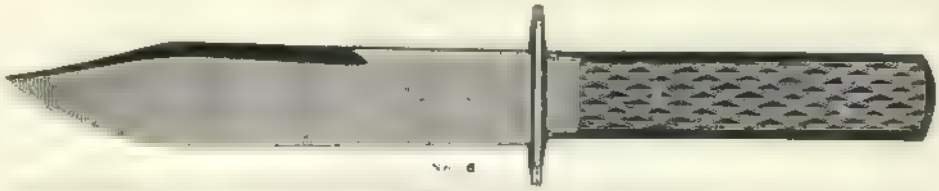


No.	SIZE.	DESCRIPTION.	PER DOZEN.
1635	6 inches.	Scored Ebony Handle.	$8 50

No.	SIZE.	DESCRIPTION.	PER DOZEN.
1640	6 inches.	Scored Ebony Handle.	$8 25
1645	7 inches.	Scored Ebony Handle.	$9 75

HALF DOZEN IN A BOX.

Hunting Knives.



No. 6

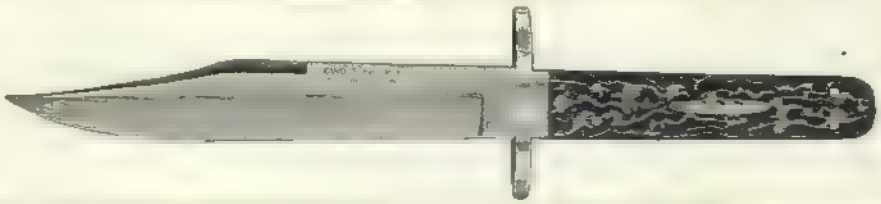
NO.	SIZE.	DESCRIPTION.	PER DOZEN.
16	6 inches.	Scored Ebony Handle, with Guard,	$8 25

HALF DOZEN IN A BOX

Bowie Knives.

No. 7

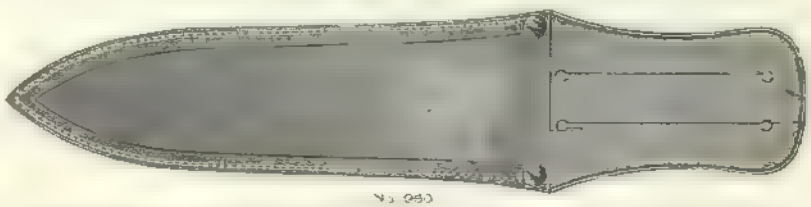
SIZE.	DESCRIPTION.	PER DOZEN.
6 inches.	New Mexican Rustler's, Stag Handle, Clip or Spear Point,	$13 50
7 inches.	New Mexican Rustler's, Stag Handle, Clip or Spear Point,	15 00
8 inches.	New Mexican Rustler's, Stag Handle, Clip or Spear Point,	17 00



SIZE.	DESCRIPTION.	PER DOZEN.
6 inches.	Wostenholm's Stag Handle, Crocus Polished, Leather Sheath, Clip or Spear Point,	$27 00
7 inches.	Wostenholm's Stag Handle, Crocus Polished, Leather Sheath, Clip or Spear Point,	33 75
8 inches.	Wostenholm's Stag Handle, Crocus Polished, Leather Sheath, Clip or Spear Point,	39 00

HALF DOZEN IN A BOX

Embossed Leather Knife Sheaths.



No. 950

SIZE.	DESCRIPTION.	PER DOZEN.
6 inches.	Embossed Russet Leather,	$1 90
7 inches.	Embossed Russet Leather,	2 05
8 inches.	Embossed Russet Leather,	2 20

"JONES HE PAYS THE FREIGHT."

The Jones Scale is not a wood lever "Scale," or a cheap contrivance, but a weighing machine of the best quality, and is United States standard. There is no scale made of better material or finer workmanship. It is warranted for five years and guaranteed to be equal in accuracy and durability to any other scale.

Price of 5-ton Wagon Scale.....$60 00 Price of 5-ton Stock Scale $65 00

Freight paid to any shipping point not west of Nebraska, Kansas, Indian Territory and Texas. To points west of these States 10 per cent is added for freight.

DESCRIPTION.

THE FIVE-TON WAGON SCALE—Has platform 14 feet long by 7 feet wide, beam box and heavy nickel-plated brass tare beam, without extra charge. Is fitted with patent wrought-iron corners, the best and simplest made.

THE FIVE TON STOCK SCALE—Has platform 11 feet long by 8 feet wide, beam box and heavy nickel-plated brass tare beam, without extra charge. Fitted with patent wrought-iron corner irons same as above described.

Timber Required to Build Five-ton Scales.

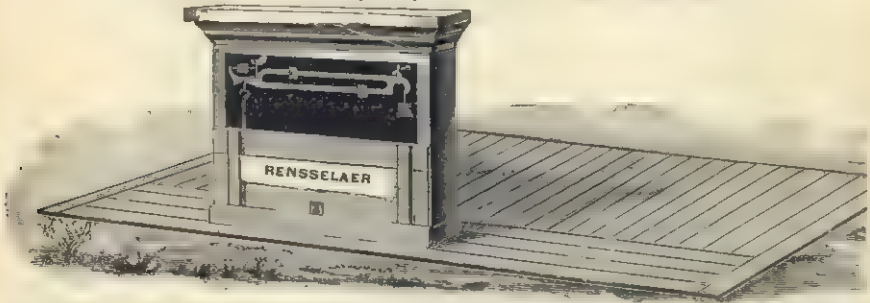
FOR FRAME OF WAGON SCALE—Three sticks 16 ft. long and two sticks 12 ft. long, 6 x 7".

FOR PLATFORM—Two sticks 14 ft. long, 8 x 8", two sticks 11 ft. 3 x 8", one stick 14 ft. long, for bearing plank, 3 x 8", 350 ft. of 2" plank that will work 7 ft. long; 7 lbs. 4" spikes; 16 2" screws, No. 16.

FOR FRAME OF STOCK SCALE—(Same as Wagon Scales)

FOR PLATFORM—Two sticks 14 ft. 8 x 8", two sticks 11 ft., 3 x 8", one stick 16 ft. 3 x 8", 275 ft. of 2" plank that will work 8 ft.; 7 lbs. of 4" spikes; 16 2" screws No. 16.

RENSSELAER FARM, GIN, AND STOCK YARD SCALES.

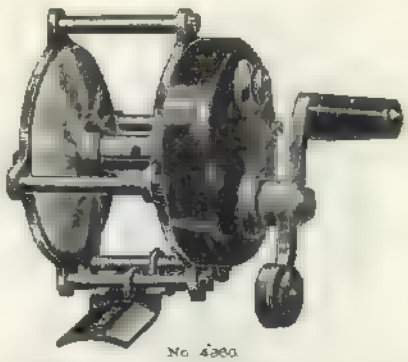


Carefully boxed with full directions for setting up. Every scale warranted to be thoroughly tested before leaving the factory, and when built according to instructions, to be as strong, accurate and durable as any scale of the same rated capacity. Beam box is charged $5.00 extra to prices below when wanted with scale.

Capacity	Size of Platform	Price.	Price with Tare Beam
3 Ton.	7 ft. by 14 ft.	$35 00	$ 40 00
4 Ton.	8 ft. by 14 ft.	40 00	45 00
5 Ton.	8 ft. by 15 ft.	50 00	55 00
6 Ton.	8 ft. by 16 ft.	60 00	65 00
6 Ton.	10 ft. by 22 ft.	95 00	100 00

PORTABLE PLATFORM SCALES for store and warehouse use at correspondingly low prices. Send for circulars.

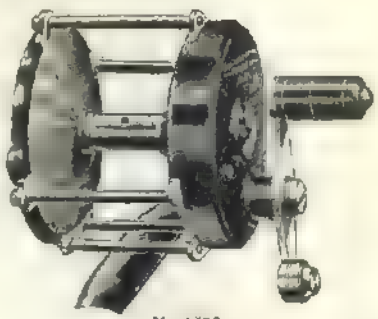
Fishing Reels.



No. 4360.

Double Multiplying, Rubber Cap, Raised Pillar, Balance Handle, Screwed, Nickel Plated, with Patent Adjustable Sliding Drag and Back Sliding Click.

NO.	DESCRIPTION.	PER DOZEN
4940	40 yards,	$18 00
4960	60 yards,	19 00
4980	80 yards,	19 50
49100	100 yards,	20 50

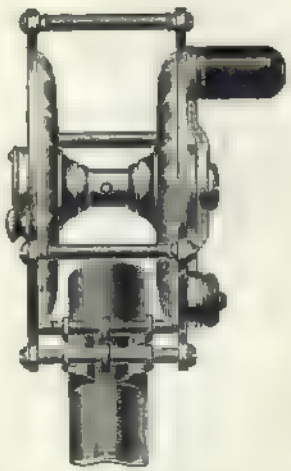


No. 1760.

Double Multiplying, Combined Hard Rubber and Metal, Nickel plated, Raised Pillar, Balance Handle, with Back Sliding Click (Steel Springs and Ratchet and Oil Cap.

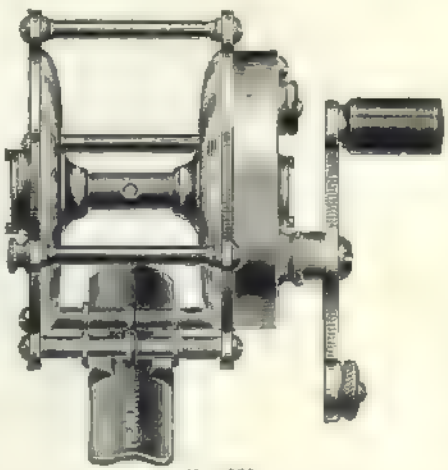
NO.	DESCRIPTION	PER DOZEN.
1760	60 yards,	$39 00
1780	80 yards,	45 00
17100	100 yards,	51 00

Hendryx's Aluminium Reels.



Single Action, Fine Aluminium, Raised Pillar, Balance Fluted Handle, Sliding Oil Cap, Steel Pivot in Bronze Bushing, Screwed, Back Sliding Click.

NO.	DESCRIPTION.	EACH.
5060	60 yards, 2½ inch Disk, 2½ ounces,	$4 85
50100	100 yards, 2½ inch Disk, 3½ ounces,	6 00

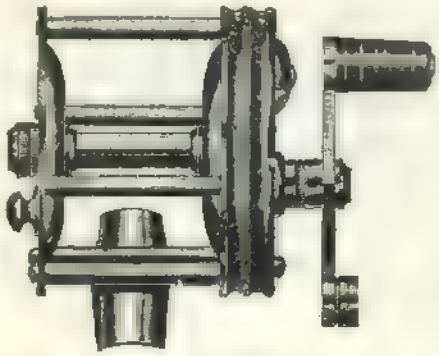


No. 880

Multiplying, Fine Aluminium, Gold Plated Trimmings, Raised Pillar, Balance Handle, Steel Pivot in Bronze Bushing, Sliding Oil Cap, Screwed Sliding Drag, Back Sliding Click.

NO.	DESCRIPTION	EACH
6080	80 yards, Double Multiplying, 2½ inch Disk, 4½ ounces,	$5 50
1880	80 yards, Quadruple Multiplying, 2½ inch Disk, 4½ ounces,	7 50

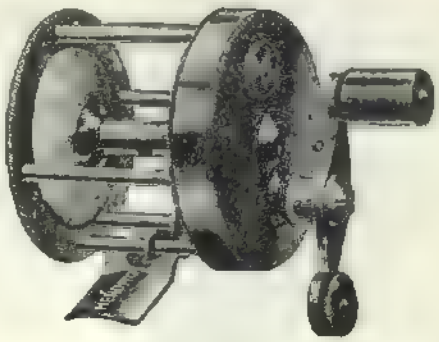
Fishing Reels.



No. 1660.

Multiplying, Fine Nickel Plated Milled Edges, Balance Handle, Adjustable Pivot Cap, with Park Sliding Click and Sliding Drag.

NO.	DESCRIPTION.	PER DOZEN.
1640	40 Yards,	$[illegible] 00
1660	60 Yards,	48 00

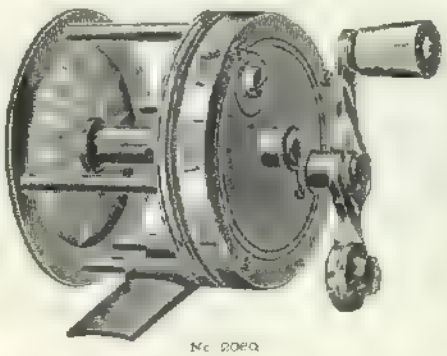


No. 1940

Quadruple Multiplying, Polished Brass, Nickel Plated Round Disc, Balance Handle, Screwed, with Fine Steel Pivots in Bronze Bushed Bearings, Patent Adjustable Side Drag, Back Sliding Click.

NO.	DESCRIPTION.	PER DOZEN.
1940	40 Yards,	$36 00
1960	60 Yards,	42 00
1980	80 Yards,	48 00
19100	100 Yards,	54 00

Extra Fine Quadruple



No. 2060

Extra Fine Quadruple Multiplying, Steel Pivot, Balance Handle, Screw-off Oil Caps, Back Sliding Click and Front Sliding Drag, with Finely Finished Milled Edges.

NO.	DESCRIPTION.	PER DOZEN
[illegible]	40 Yards,	$[illegible] 00
[illegible]	60 Yards,	[illegible] 00
[illegible]	80 Yards,	60 00

PULLEY AND SHAFT OILERS.

Fig. 1468.

BRASS LOOSE PULLEY OILER.

THIS OILER must be attached to hub of pulley, is easily filled and regulated, will not throw or waste oil, and a trial will convince users that it is a simple and satisfactory oiler for loose pulleys. It is guaranteed to give satisfaction, one filling lasting from two to four weeks, and feeding only when in motion.

Number		0	1	2	3	4
Outside Diameter,	inches	1	1¼	1⅝	1¾	2
Capacity	ounces	¼	½	¾	1¼	1¾
Price	each	.25	.30	.40	.50	.65

Shanks on Nos 0, 1, 2 are threaded ⅜ inch on point, 16 threads to the to the inch. Shanks on Nos 3 4 are threaded ¼ inch Pipe Thread.

Fig. 1469.

Shaft Oiler.

Fig. 1470.

Shaft Oiler, with loose Wire and Wood Plug.

Fig. 1471.

Sectional.

Fill the oiler full with oil, screw on the socket air tight, and then screw the stem tightly into the oil hole in bearing. When the cups need refilling unscrew the stem out of the hole, take the oiler apart, and proceed as before. See that the hole through stem is always clear of any obstruction before putting the oiler in its place.

☞ See that the Glass Globe is always tight in its socket.

TO REGULATE.

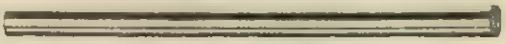
The oilers are shipped set for a MODERATE feed. The oil hole in the stem is drilled parallel with the slot in the set-screw. By turning the regulating screw a QUARTER TURN BACKWARD the supply of the oil is entirely cut off. Between these two positions of the screw any desired amount of feed may be had.

Shanks are threaded ⅜ inch on point, 16 threads to the inch.

Number		1	2	3
Capacity	ounces	1	1⅝	2¾
Diameter	inches	1¾	2	2½
Height	inches	2⅝	3	3½
Price	per dozen	6 00	6 50	7 00
Extra Glasses, Net	each	08	08	08

GLASS TUBES AND OIL CUP GLASSES.

Fig. 1472.

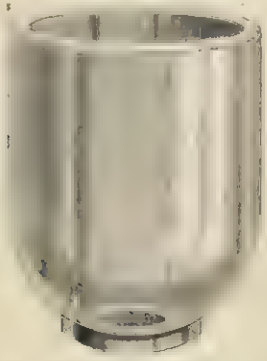


SCOTCH GLASS TUBES.

GENUINE SCOTCH GLASS TUBES.

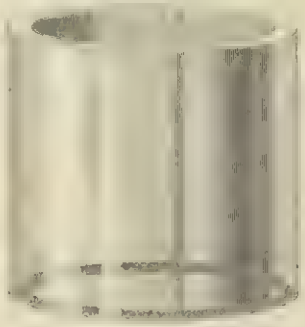
LENGTH	EXTERNAL DIAMETER			
Inches.	⅛ and 5/16	¼	⅜	½
10	$4.80	Tubes shorter than 14 inches $6.60 per doz.	Tubes shorter than 15 inches $8.40 per doz.	Tubes shorter than 17 inches $10.80 per doz.
11	4.80			
12	5.40			
13	5.40	$6.60		
14	6.00	7.20	$8.40	
15	6.60	7.20	9.00	
16	7.20	7.80	9.60	$10.80
17	7.80	8.40	10.20	11.40
18	8.40	9.00	10.80	12.00
19	9.00	9.60	11.40	13.20
20	9.60	10.20	12.00	15.00
22	10.80	11.40	15.00	18.00
24	12.00	12.60	18.00	24.00

Fig. 1473.



URN SHAPED OIL CUP GLASS.
Full Size No.

Fig. 1474.



CYLINDRICAL OIL CUP GLASS.
Full Size No.

These Glasses are clear, strong and uniform in size, and interchangeable with all styles of Glass Cups made by us.

Number		000	00	0	1	1¼	2	3	4	5	6
Outside Diameter of Glass	inches	1	1⅛	1¼	1⅜	1⅝	2	2¼	2½	3	3½
Height of Glass	inches	⅞	1	1⅛	1⅜	1⅝	1⅞	2⅛	2⅜	3	4
Price, Net	each	.05	.06	.08	.10	10	12	15	.25	.35	.65
Cork Washers, Net	per dozen	.15	.18	.24	.30	.36	.40	.45	.50	.60	.75

Fig. 1475

GAUGE GLASS CUTTER.

Patented.

THE SIMPLEST AND THE BEST.

In this Cutter the sliding lever can be placed close to the work, and thus more power is obtained, and the Steel Cutting-wheel can be used much longer than in any other cutter.

Nickel Plated, each $2.00

Duck, Turkey and Goose Calls.

No. 780, Duck Call

No. 768, Allen's Duck Call

We wish to call your attention to the superior excellence of the Allen Duck Call. It is nearly as perfect as can be attained. This call is made by the most experienced man in this business, Mr. F. A. Allen, who is also one of the most successful duck hunters in the country, and is, therefore, an authority on such subjects. Each caller is tried by Mr. Allen himself, and is absolutely perfect.

No. 765, Turkey Call

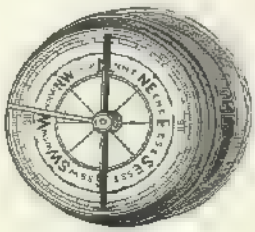
No. 770, Fuller's Goose Call.

NO.	DESCRIPTION.	PER DOZEN.
780	Duck Calls, Cocobolo Wood, Nickel Tips,	$ 3 00
773	Horn Snipe Calls,	3 00
765	Turkey Calls, Horn Tips,	4 10
780H	Duck Calls, Cocobolo Wood, Horn Tips,	3 25
768	Duck Calls, Allen's, New Wood Shell,	6 75
770	Fuller's Goose and Crane Calls,	15 75

Pocket Compasses.

No. 3.

No. 12.



No. 15.

NO.	DESCRIPTION	PER DOZEN
5	1 inch Diameter 25M., Polished Brass Case, with Ring, see cut,	$ 2 25
3	1½ inch Diameter, 30M., Polished Brass Case, Slip Cover, Beveled Glass, see cut,	3 75
6	1½ inch Diameter, 40M., Polished Brass Case, with Ring, Beveled Glass,	4 00
4	1½ inch Diameter, 40M., Polished Brass Case, Slip Cover, Beveled Glass,	4 50
7	1½ inch Diameter, 40M., Open Face, Metal Dial, with Stop,	7 50
9	1½ inch Diameter, 40M., Open Face, Metal Dial, Full Division with Stop, Jeweled,	11 00
8	2 inch Diameter, 50M., Slip Cover, Metal Dial with Stop,	12 00
16	2½ inch Diameter, in Hinged Rosewood Case, Paper Dial,	12 75
10	2 inch Diameter, 50M., Slip Cover, Metal Dial, Full Divisions, Jeweled,	15 75
17	2½ inch Diameter, in Hinged Rosewood Case, Metal Dial, Full Division, Automatic Stop,	16 90
11	2½ inch Diameter, 40M., Hinged Cover, Metal Dial, Full Division with Stop, Jeweled,	18 75
13	1½ inch Diameter, 40M., Watch Case Style, Nickel-plated, Hinged Cover, Metal Dial, Full Division, Automatic Stop, Jeweled, see cut,	29 25
15	3½ inch Diameter, English Bar Needle, Metal Dial, Full Division, Slip Cover, Automatic Stop, Best Quality, see cut,	40 50
18	3½ inch Diameter, Surveyor's, 90M., Bar Needle, Metal Dial and Raised Disc, in Mahogany Box, Mounted on Brass Ball and Socket Joint,	EACH. 10 50

Decoy Ducks and Geese.

Kankakee Decoy Ducks

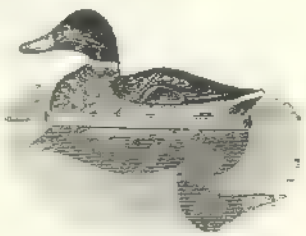
Kankakee Decoy Ducks.

NO.	DESCRIPTION	PER DOZEN
1	Decoy Ducks, Assorted,	$6 75
2	Decoy Ducks, Assorted,	5 25
3	Decoy Ducks, Assorted,	3 75

These Decoys are made of best seasoned white cedar flat bottomed, so that they will float evenly on the water at all times, are well balanced and nicely painted. We carry them in Mallards, Canvas Back or Red Head, Blue Bill and Blue Winged Teal. They are packed one dozen in a crate, assorted one-third female and two-thirds male. Nos. 1 and 2 are smoothly finished and painted in natural colors. No. 3 is painted in natural colors, but not as carefully finished as Nos. 1 and 2.

ONE DOZEN IN A CRATE.

Danz Single Duck.



Danz Double Duck.

Danz's Profile Folding Decoy Ducks.

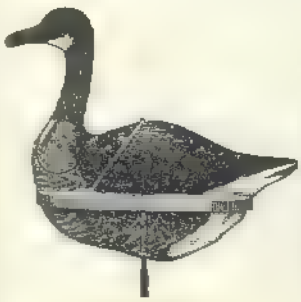
DESCRIPTION	PER DOZEN
Single Ducks,	$6 75
Double Ducks,	8 00

These Ducks are designated as Double and Single and are assorted in Mallard, Canvas Back, Blue Bill, Red Head and Teal.

The Double Duck has a profile hinged to each side of the float, and supported by well secured brass braces. Both the profiles may be alike or different profiles are put on opposite sides of the float, as preferred.

The Single Duck has but one profile, the reverse side consisting of a folding keel, sufficient to prevent the decoy from tipping over.

Danz's Folding Decoy Geese.



Danz—Style 3.

NO	DESCRIPTION.	PER DOZEN.
1	Danz's Profile Decoy Geese, without Wings,	$ 8 00
2	Danz's Profile Decoy Geese, with Wings,	13 50
3	Danz's Profile Decoy Geese, with Wings, combined,	16 25

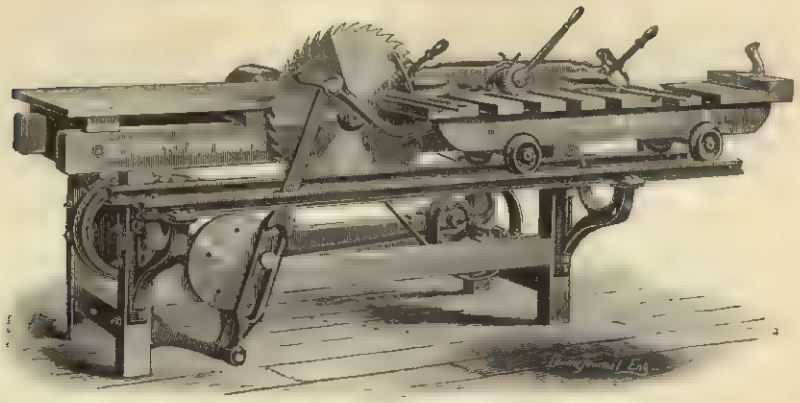
Style 1 is the Profile Goose—without wings.

Style 3 is the same as the above, with the addition of wings. Both these styles have the latest improved leg and neck. The former is pivoted to and always goes with the body. The latter represents a flock of geese, with heads in various positions, adding much to the effectiveness of the decoy.

Style 3, heretofore known as the Combined Goose, is designed for use on both land and water. With its profiles, keel and leg all hinged to a float, it combines the excellences of Style 2 Geese with those of the Single Goose.

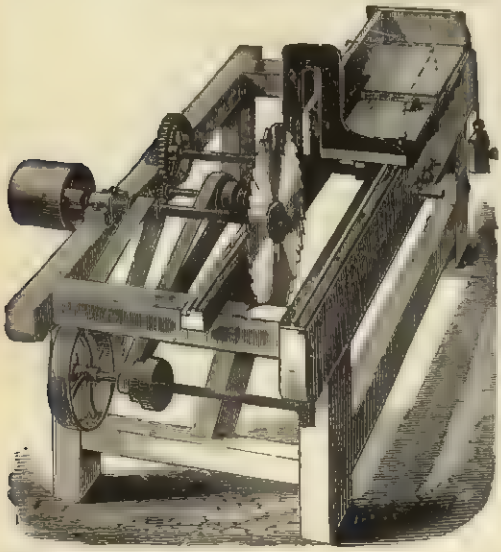
Danz—Style 1.

KENTUCKY AUTOMATIC SHINGLE MACHINE "A."



The cut represents the latest improvement in this class of Shingle Machines. It combines the good qualities of the "Self-Feed" Kentucky Shingle Machine, with improvements, suggested by practical experience. The Block is clamped by jaws so as to cut it up to within one-half inch, and is easily and with entire safety adjusted and handled by the operator. The carriage advances and recedes *automatically*, making and discharging a shingle at each operation. All the operator has to do is to place his block in the clamp, fasten it in the jaws by means of a lever, then move the block by means of another lever, alternately forward. We furnish two sizes of rack, one to make ¼ inch shingles, the other ⅜ inch at butt. Capacity from 6,000 to 10,000 shingles per day. Has two feeds so as to be adapted to the power applied. By removing the clamp and carriage it can be used as a saw table for cutting strips, palings, etc., or anything that a saw table with 24 inch saw can do. It cuts an even smooth shingle 18 inches long, from 3 to 8 inch diameter. Pulley 8 x 8. Requires 1,500 revolutions per minute to do satisfactory work. Price, $150 00. Weight, 600 lbs.

KENTUCKY SELF-FEED SHINGLE MACHINE.—B and C.



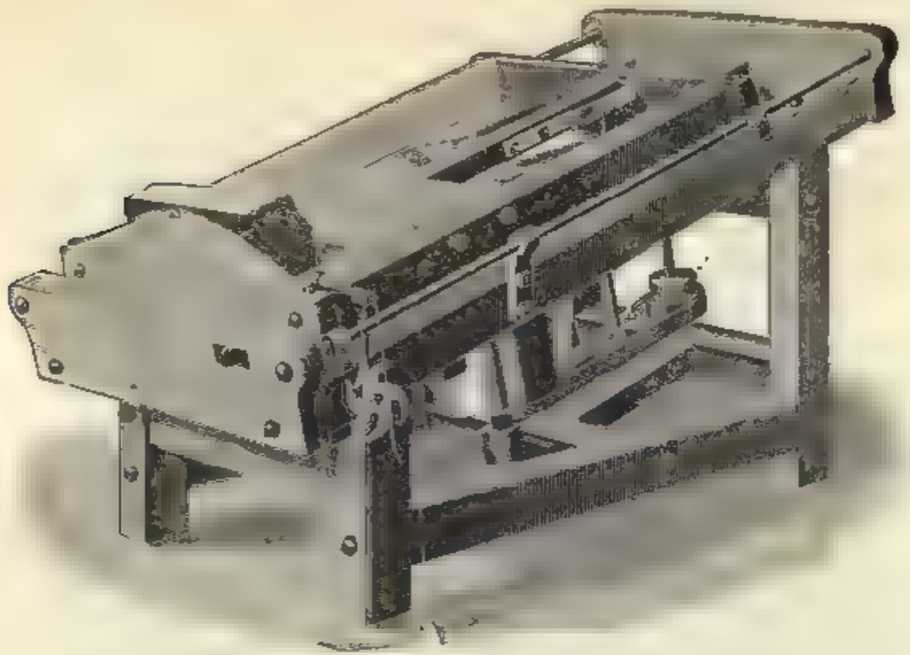
The cut illustrates the New and Improved Kentucky Self-Feed Shingle Machine **"C."** These machines have recently been greatly improved. The slide has been stiffened by the Cast Iron Yoke shown in the cut, and four Wrought Iron Gibs attached to the under part. The ways are planed smooth underneath to allow the Gibs on the slide to slip thereon, thus firmly holding the shingle table or slide. A Self-Acting or Automatic Trip stops the slide the instant the cut is made, and allows the weight to bring the shingle table back. All the operator has to do is to rock the block with his hands, and throw it in gear. It will square Riven Blocks. The mandrel should have 1,500 revolutions per minute for general work. All the inside belts, a wrench, and one 24-inch saw (made expressly for this machine, filed and set as it should be) are furnished.

The **B** Machine is built with a regular saw table and gauge for cutting strips, palings, orange and vegetable box slats, etc.

Pulley, 8 x 8 inches. Capacity, 5,000 to 8,000 shingles per day.

Hand-Feed Kentucky Shingle Machine **D**	$ 50 00	Weight, 300 lbs.
Self-Feed Kentucky Shingle Machine **C**	100 00	" 450 "
Self-Feed Kentucky Shingle Machine **B**	115 00	" 500 "

QUE'S IMPROVED SELF-FEED, BOX BOARD, SHINGLE AND HEAD CUTTING MACHINE.



For rapid cutting, ease of management, durability and cheapness, we claim that this machine has no superior. It is a self feeding and self-setting machine. The Feed can be stopped at the end of every cut, if desired, by the operator. The butt of the shingle can be cut continuously at either end of the block, thus enabling the operator to get his block of even thickness. It requires no mechanical skill to operate the machine except to file and set the saw.

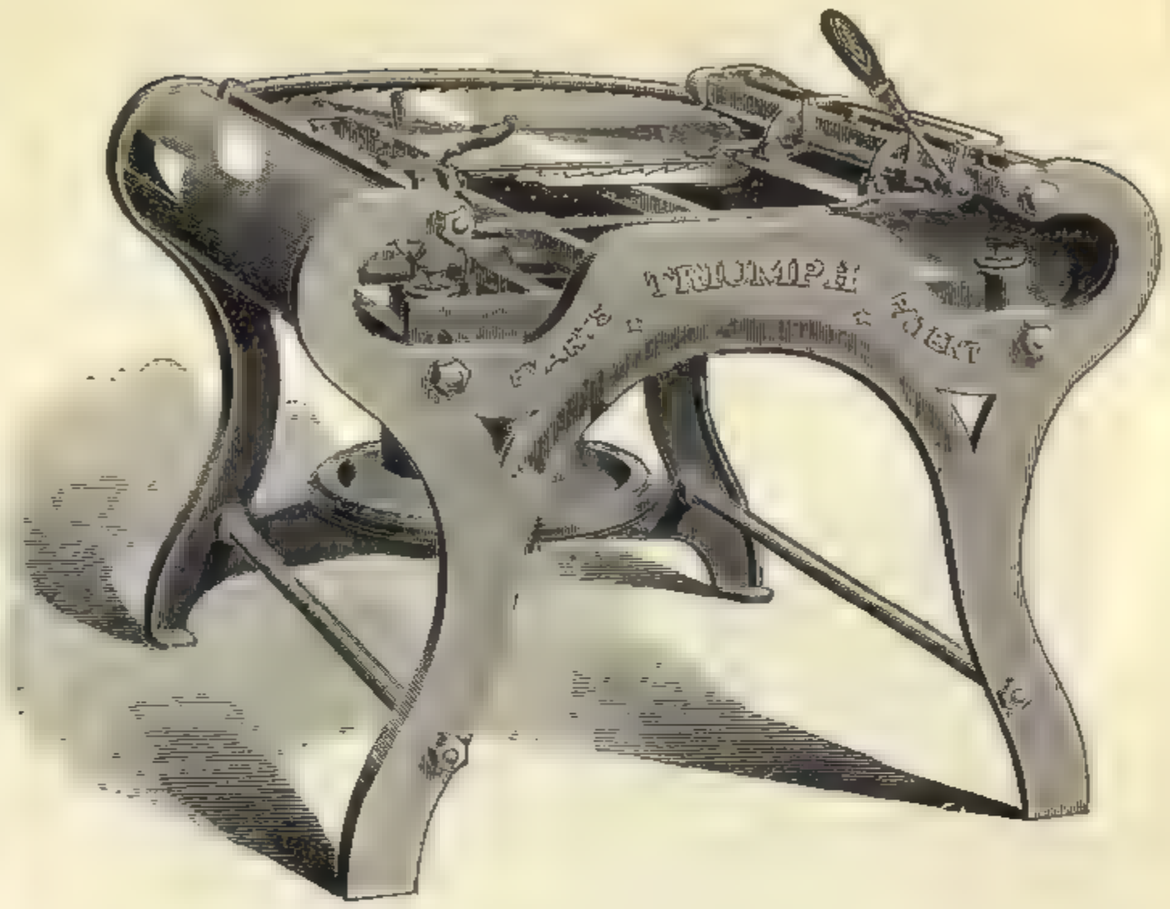
The first cut from any block that has a flat surface is a perfect shingle. It will cut blocks 19 inches long by 13 inches wide.

Shingles can be cut of any desired taper by moving the step that rests on the trip block either to the right or left, and of any required thickness by turning the adjusting screws that lift the springs that hold the table.

This machine will cut 4,000 shingles in an hour from suitable blocks, and can make 80 shingles per minute from blocks 8 inches wide. Size of driving pulley, 14x12 inches. Should run about 1200 revolutions per minute.

Price, with one 36-inch saw $140 00

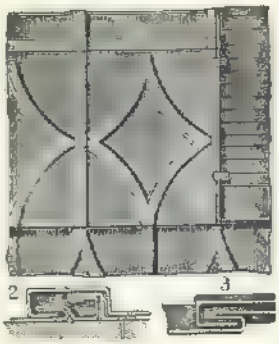
TRIUMPH SHINGLE MACHINE.



A Shingle Machine that is comparatively low priced, but first-class as to construction and capacity. It has the LIGHTEST STEEL CARRIAGE of any machine built, enabling the operator to move it much more rapidly. The taper works are entirely *automatic* or can be stopped at each cut if desired. The saw arbor has self-adjusting and self-oiling boxes, and will not heat It saws up the block closer than others. With selected timber, sufficient speed and power, and an expert to operate it, 100,000 shingles can be made per day. We do not state that this is the capaci'y of the machine under ordinary circumstances, but 35,000 to 45,000 per day is a fair average, and with competent handling this rate can be maintained on steady work. Only 16 inch and 18 inch shingles can be made on this machine. For longer shingles or Heading or Heavy work use the No. 2 Machine. Weight, 800 lbs. Pulley, 12 inches diameter, 10 inches face. Speed, 1,500 to 1,600 per minute.

Price	$230 00
Extra Saw and Collar	55 00

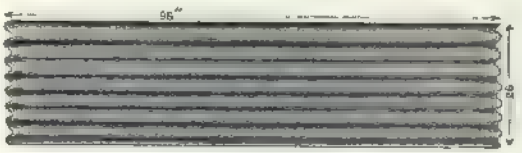
Smeeton's Metallic Shingles.



SIZE.	DESCRIPTION.	PER SQUARE.
14×20	Smeeton's Patent Improved, Painted,	$8 25
14×20	Smeeton's Patent Improved, Painted, with two Patterns of Shingles stamped on each Shingle,	9 75
10×14	Smeeton's Patent Improved, Painted	9 75

Each Shingle is made out of a single piece of the best tin or other roofing metal which is so bent and doubled at its edges as to form locking joints on all sides.
They can be applied to any building where any Metallic or Wood Shingles, Slate or Tile Roofing would be used, and can also be used for siding.
They can be easily and quickly applied by any workman of ordinary ability.
All Shingles are first dipped in good paint and then brushed on both sides, so that they are perfectly painted before leaving the manufactory.

Painted Corrugated Iron.



Shows Straight Corrugated Sheet, 26 x 96 inches; Corrugation 2⅞ inches from Center to Center, ⅝ inch deep.

For Siding, Ceilings, Doors, Shutters, Arches and Awnings.

SIZE OF CORRUGATION.	NUMBER OF CORRUGATIONS LAPPED.	AVAILABLE WIDTH NUMBERS 24 TO 27.	AVAILABLE WIDTH NUMBERS 16 TO 22.
2⅞ inches,	1 inch,	25½ inches.	25 inches.
2½ inches,	1½ inches,	24½ inches.	23½ inches.
2½ inches,	2 inches,	23 inches.	31½ inches.
1½ inches,	1 inch,	25½ inches.	25½ inches.
1½ inches,	1½ inches,	24½ inches.	24½ inches
1½ inches,	2 inches,	24½ inches.	24 inches.

It has the following qualities essential to all covering materials. It is fire, water and wind proof, it is cheap, light, and durable, it allows for the use of a light frame, being a support in itself.

It is the custom of trade generally, as it is ours, in selling by the square, to furnish a number of sheets, the total superficial measurement of which equals 100 square feet.

The most salable size used is No. 27, 8 feet long, 2½ inch Corrugations.

Stock lengths are 60, 72, 84, 96, 99, 101, 108 and 120 inches.

Stock widths are 27½ inches, in 2½ inch Corrugation, and 26½ inches, in 1¼ inch Corrugation. Covering width of Sheets, allowing lap as stated, are found in the above table.

Liquid Fish Glue.

1 and 2 oz. Bottles.

½ and 1 Gill Cans.

¼, ½, 1 Pint, 1 Quart, 1 and 1 Gallon Cans.

DESCRIPTION	PER DOZEN
1 oz. Bottles, with Brush, One Dozen in a Box,	$ 1 00
2 oz. Bottles, with Brush, One Dozen in a Box,	1 50
½ Gill Cans, Patent Top, with Brush, One Dozen in a Box,	1 50
1 Gill Cans, Patent Top, with Brush, One Dozen in a Box,	2 00
½ Pint Cans, Patent Top, Two Dozen in a Case,	3 00
1 Pint Cans, Patent Top, One Dozen in a Case,	5 00
1 Quart Cans, Patent Top, One Dozen in a Case,	8 00
½ Gallon Cans, Patent Top, Half Dozen in a Case,	13 50
1 Gallon Cans, Patent Top, Half Dozen in a Case,	24 00

Retail Assortment of Liquid Glue.

DESCRIPTION	EACH
Consists of Two Dozen 1 oz. Bottles, One Dozen ½ Gill Cans, complete with Turned Wire Display Stand,	$3 50

ONE IN A CASE.

Glue in Bulk.

DESCRIPTION.	PER POUND
"B" Amber,	$0 25
"A" White,	30
"H S" Amber, Extra Quality,	35

Glue Pots.

Cast Iron, Tinned Inside

No.	0	1	2	3
Capacity,	1 Pint.	1½ Pint.	1 Quart.	1½ Quart.
Per Dozen,	$3 00	6 75	8 40	10 26

VERTICAL MARINE ENGINES.

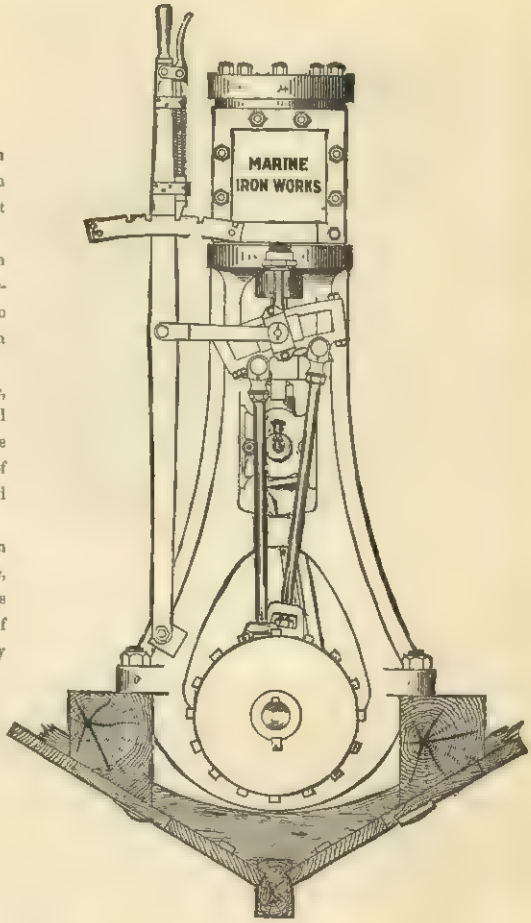
We can furnish a complete line of high grade marine engines in small and medium sizes. This work is not kept in stock, but can be built on short notice.

Our patterns are new, and up to date, each engine being designed and built with reference to the duty it has to perform, and to work smoothly at great speed, under high steam pressure.

The link motion is of the Stephenson type, and is designed so as to produce an equal cut-off for all points of the stroke. All the small parts, as far as practicable, are of steel, as light as is consistent with required strength.

In ordinary operation, these engines are run at a speed of 300 revolutions per minute, with the steam cut-off at ⅛ stroke. At this speed there is little vibration, the weight of the reciprocating parts being accurately counterbalanced.

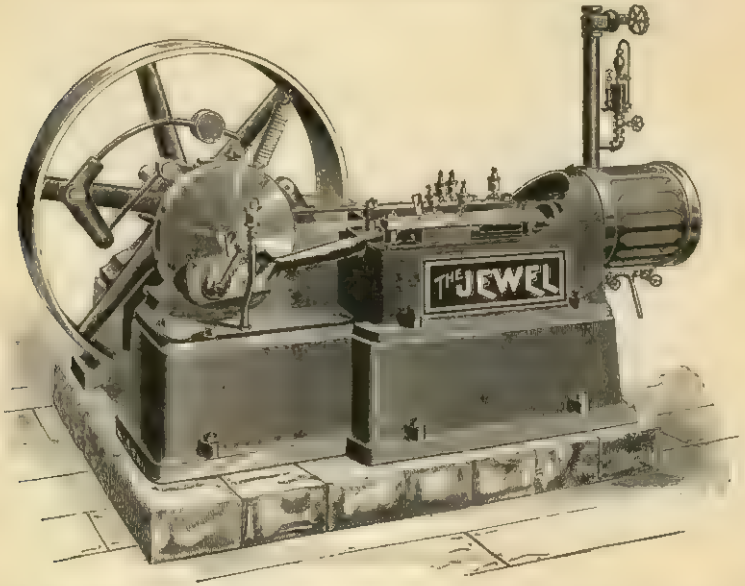
The weight is low down in the boat, and the bed plates so arranged that it is not necessary to cut away frame timbers to place the cranks in proper position.



	Diameter of Cylinder	Stroke	Height Above Timbers	Diameter of Crank	Steam.	Exhaust	Approximate Weight	PRICE.
Slide-valve pattern.	6 in.	7 in	40 in.	2¼ in.	1¼ in	2 in.	650	$190 00
	7 in.	7 in.	42 in.	2¼ in.	1¾ in.	2¼ in	690	210 00
Piston valve pattern.	6 in.	8 in.	44 in.	2½ in.	1½ in.	2½ in.	780	250 00
	7 in.	8 in.	44 in.	2½ in.	1½ in.	2½ in.	825	275 00
	8 in.	8 in.	46 in.	2¾ in.	2 in.	3 in.	900	300 00

Double engines built to order.

LAUNDRYMEN'S AUTOMATIC ENGINE—"THE JEWEL."



We list this engine in sizes 6 to 12 horse power, for laundrymen, printers, and small manufacturers, who require small power and perfect speed regulation.

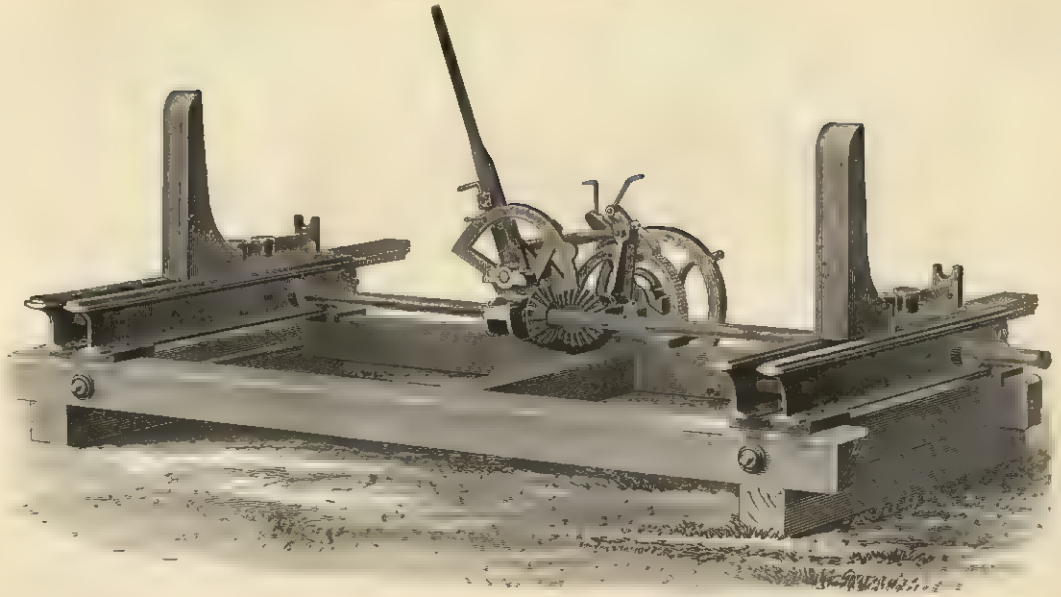
The pillow blocks, bed, and ways are cast in one piece, to which the cylinder and all working parts are attached, insuring rigidity and perfect alignment. The engine is mounted upon a substantial sub-base of sufficient height to bring the fly-wheel entirely above the floor. It has a balanced slide-valve, simple in construction, self-adjusting to natural wear, and remaining perfectly steam-tight. The governor is of a new type, and very simple, all parts being accessible with a common wrench. The speed regulation is very close, and may be changed to different speeds. All these engines are tested thoroughly before shipping.

We ship with each engine a complete set of glass oilers, one sight-feed lubricator, one throttle valve and two cylinder cocks.

PRICE LIST AND DIMENSIONS.

Indicated Horse Power at 80 lbs. initial pressure, cut-off at ¼ Stroke.		6 to 8		8 to 10		10 to 12	
Revolution, per Minute		AT 260	AT 380	AT 230	AT 320	AT 230	AT 300
Cylinder	Bore	4½		5		6	
	Stroke	6		7½		7½	
Fly-Wheel	Diameter	20		30		30	
	Face	5½		6¾		6¾	
Belt-Pulley	Diameter	14		16		18	
	Face	6½		7½		8½	
Shipping Weight		550 lbs.		1,000 lbs.		1,050 lbs.	
List Price		$175 00		$220 00		$250 00	

LETTER "F" HEAD-BLOCKS.

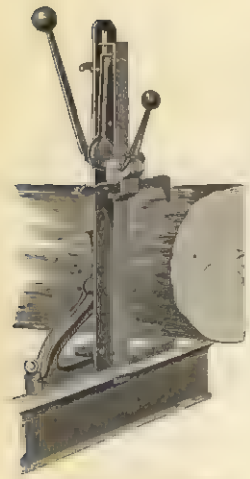


These are made with double wrought iron eye beam Bodies, and have a 2-inch Setting Shaft, key-seated the full length. The set works being separated from the Bodies, the blocks can be moved on the carriage very quickly to suit the different lengths of logs. Two or more Head-Blocks can be operated by the one set works, and, when it is preferred, they can be made stationary on carriage. The Lever works parallel with the carriage. The pawl arms, working in opposite directions, produce continuous motion at each throw of the setting lever, either forward or back, and thereby prevent back lash or lost motion, which is always caused by the strain on the set works, from the weight of the log against the knees of Head-Blocks that set but one way. The pawls are held firmly with steel springs, making it impossible to miss a single notch in the ratchet wheel. The throw is from 1-32 to 2 inches, produced by one forward and backward movement of lever. Unless otherwise specified the blocks are built to take up to a 42-inch log, but can be made to take 50 inch or larger, at additional cost.

Price, per pair..... $200 00

KNIGHT'S IMPROVED MILL DOGS.

Single and Duplex.



Cut Shows Left Hand, Single Dog.

A single downward motion of the long lever forces the bits into the log. By raising the lever the bits are released. In the Duplex Dog, the double eccentric, operated by the long lever, draws the lower bit toward the standard, forcing the log tightly against the knee, insuring perfect lumber. Both bits are on the same side of the knee, relieving it of all tendency to bind in the grooves of the head-block.

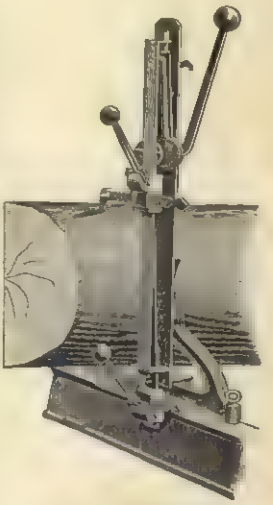
The bits never slip, and they can be adjusted without having to hold up the box, a feature found in no other Dog. These Dogs are made wholly of phosphor bronze, steel, wrought and malleable iron.

SINGLE DOGS.

No. 2, for Medium and Small Mills, per pair..... $30 00
No. 3, for Medium and Large Mills, per pair..... 40 00

DUPLEX DOGS.

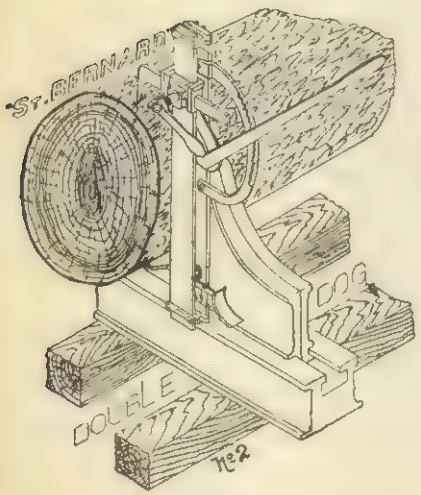
No. 2, for Medium and Small Mills, per pair..... $50 00
No. 3, for Medium and Large Mills, per pair 60 00



Cut Shows Right Hand, Duplex Dog.

SOULES' "ST. BERNARD" MILL DOG.

Single and Double.



This Dog is quick and simple, requiring no adjustment, and securely holding any size log, for live, quarter or through sawing, on the fastest carriages. It will effectively hold small logs, as well as large. There is no danger of running the under dog into the saw, a register, by inches, in large figures shows exactly the outward distance of the tooth point. It can only be extended at will of operator, and when the lever stands upright.

It has no small working parts, NO TRIGGERS, traps or latches to become deranged, no balls or weighty parts to render it top-heavy.

Our dogs are adapted to the lightest and heaviest carriages, and for fast and slow feed mills.

PRICES.

	SINGLE.	DOUBLE.
Light, to dog up to a 38-inch log, per pair of two.....	$24 00	$40 00
Standard, to dog up to a 44-inch log, per pair of two.....	30 00	48 00
Heavy, to dog up to a 50-inch log, per pair of two.....	36 00	56 00

Perhaps You Know All About It!

THE...

New Era Radiator

Its construction is very simple, but as a heat-giver and a saver of fuel it surpasses all others. Prices also are lower this year

Full particulars may be had by addressing . .

WILMOT, CASTLE & CO.

81 Elm Street, Rochester, N. Y.

FOR SOFT COAL

The Perfection Radiator

DEALERS who want the best article the market affords, will find the PERFECTION RADIATOR just the thing. Actual figures demonstrate that this Radiator has more heating surface than any other radiator in existence. As an investment it can't be beat, for it will save twice its cost the first year. Write for discounts

The following are a few of the desirable features possessed by the PERFECTION RADIATOR.

1. It is cleaned as easy as any stove pipe.
2. It will not leak gas.
3. It is very durable.
4. It has a very handsome appearance.
5. It can be taken apart, repaired, and put together again.
6. It has no horizontal pipes that injure the draft and catch soot
7. It has no *inner* tubes that are inaccessible, and afford lodging places for dust and dirt
8. Being entirely open, it can be reached at every point. [This will be appreciated by every tidy housekeeper.]

Radiators have long since passed the experimental stage, and are now regarded as an economical necessity.

Why not get the best?

FOR HARD COAL

Our **SOFT COAL RADIATOR** is made on the same principle, the construction only being different. It is the only Soft Coal Radiator constructed on a scientific basis on the market

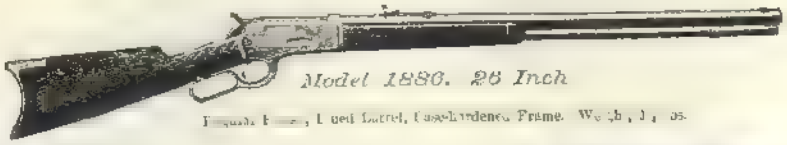
Write for Circulars and Prices

LEVI HEY & CO., Manufacturers,

CHICAGO R. ROBINSON & SONS
CLEVELAND MCINTOSH, HUNTINGTON CO.
NEW YORK, PHILADELPHIA AND BOSTON HEY & WILLIAMS

315 State Street, Rochester, N. Y.

Winchester Repeating Rifles.



Model 1886. 26 Inch

[illegible]; Fluted Barrel, Case-hardened Frame. Weight, [illegible] lbs.

38-56.

NO.	DESCRIPTION.	EACH
3206	26 inch Round Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	$19 50
3306	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	21 00
3296	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine,	24 00
3386	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine, with Fancy French Walnut Checked Pistol Grip Stock and Fore-end,	39 00
3222	22 inch Round Barrel, Carbine,	19 00

40-65.

NO.	DESCRIPTION.	EACH.
3406	26 inch Round Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	$19 50
3506	26 inch Octagon Barrel, Plain Trigger Case-hardened, 8 Shots Full Magazine,	21 00
3496	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine,	24 00
3586	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine, with Fancy French Walnut Checked Pistol Grip Stock and Fore-end,	39 00

45-70.

NO.	DESCRIPTION	EACH
2806	26 inch Round Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	$19 50
2906	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	21 00
2896	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	23 00
2996	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine,	24 00
2986	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine, with Fancy French Walnut Checked Pistol Grip Stock and Fore-end,	39 00

40-82.

NO.	DESCRIPTION	EACH
3406	26 inch Round Barrel, Plain Trigger, Case-hardened, 8 Shots, Full Magazine,	$19 50
3506	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	21 00
3496	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	23 00
3586	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine,	24 00
3596	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine, with Fancy French Walnut Checked Pistol Grip Stock and Fore-end,	39 00

We can also furnish a 40-75-260 Cartridge with a hollow point express bullet, which can be used in guns chambered for the 40-82-260 Cartridge.

45-90.

NO.	DESCRIPTION.	EACH
3006	26 inch Round Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	$19 50
3106	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	21 00
3098	26 inch Octagon Barrel, Plain Trigger, Case-hardened, 8 Shots Full Magazine,	23 00
3196	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine,	24 00
3186	26 inch Octagon Barrel, Set Trigger, Case-hardened, 8 Shots Full Magazine, with Fancy French Walnut Checked Pistol Grip Stock and Fore-end,	39 00

Lyman Sights.

Cut shows effect of Lyman Sight for Hunting. Shows the Front Sight and the object aimed at, without intercepting any part of the view.

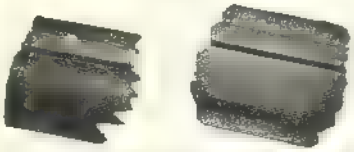
DESCRIPTION.	EACH.
Lyman Combination Rear Sight, - -	$3 00

For all Standard makes of Rifles.

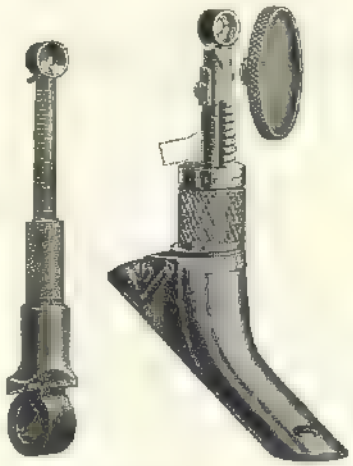
Lyman Ivory Bead Front Sight, - - -	$1 00

Lyman Ivory Front Hunting Sight, - -	$2 50

Rear Sight.



Lyman Ivory Shot-gun Sight, Front,	$2 50
Lyman Ivory Shot-gun Sight, Rear, -	3 50

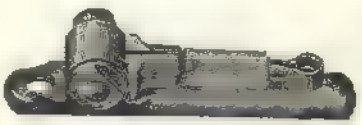


DESCRIPTION.	EACH.
Lyman Wind Gauge Sight, - - - -	$5 00

For all Standard makes of Rifles. The Best Target and Hunting Sight Made.

The optical principle involved in this Sight is entirely new in its application and is more easily seen than explained.

When aiming, this Sight has the appearance of a ring or hoop, which shows the Front Sight and the object aimed at, without intercepting any part of the view.



Lyman Sight Folded.

Cut showing the '76 Model Winchester Rifle with the action open. The Firing Bolt does not hit the finger during

It is often the case that a purchaser buys the wrong kind or size of Sights for his Rifle. For instance, he gets a Sellers Sight for a Marlin Rifle or vice versa and finds he cannot attach it down where it belongs on the gun. Such a Sight is not a satisfactory Sight to use.

DESCRIPTION	EACH.
Lyman Combination Ivory Front Sight	$1 00

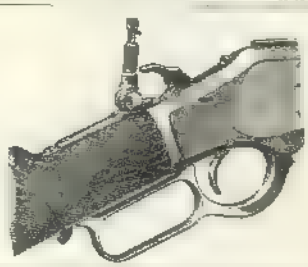
This sight is excellent for "all around" shooting. Nearly all shooting should be done with the ivory part.

If it should not be firm enough on its hinge, tighten the right hand screw which is indicated by an arrow.

Blank jobs to replace the rear notch Sight, which is usually on the barrel when the rifle is purchased. Rear Sights shown. Always be provided.

DESCRIPTION.	EACH.
Blank - - - - -	[illegible]

Sporting Leaf, to replace Rear Sight on Bartlett [illegible] $1 00



Lyman's Patent Combination Rear Sight, applied to the Winchester Rifle Model 1876.

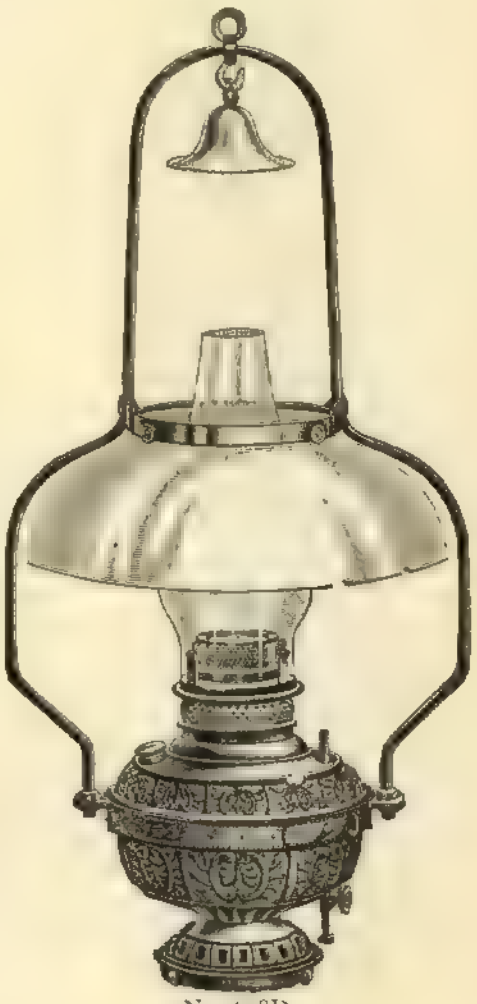
We keep in Stock these Sights, adapted to all the Standard Makes of Arms.

ALWAYS GIVE NAME AND CALIBER OF RIFLE WHEN ORDERING LYMAN SIGHTS.

Mammoth Lamps.

The Plume & Atwood Manufacturing Co.'s.

No. 858.



No. 858D.

Capacity 3 to 4 Quarts, 300 Candle Power, Burns 11 Hours.

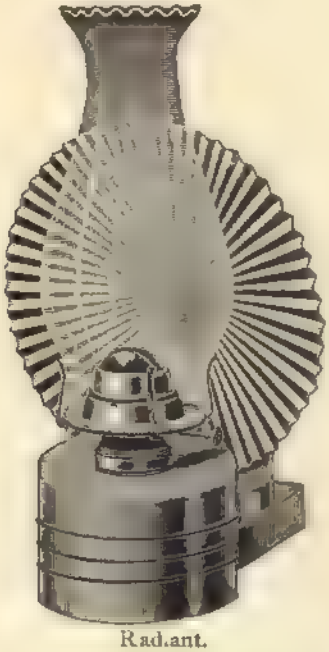
No.		Each
858.	Mammoth Fount and Harp, Brass, with 20 inch Shade and Chimney, .	$4.50
858D.	Mammoth Fount and Harp, Brass, with 14 inch Dome Shade and Chimney,	5.00

One in a Box, Complete.

Chimneys and Wicks.

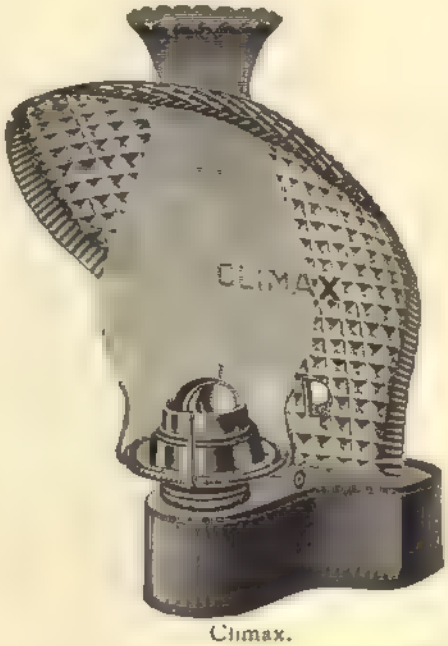
		Per Dozen
3.	Banner Chimneys, for No. 858 Lamp, ...	3.00
3.	Banner Wicks, for No. 858 Lamp, ...	2.00

Lamps.



Radiant.

No. 11, Hand.



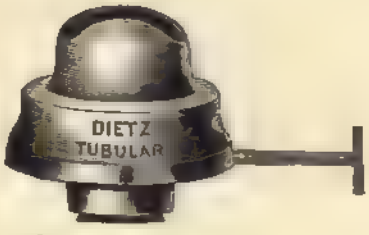
Climax.

No.		Per Dozen
11.	Tubular Hand Lamp, with Corrugated Reflector,	$6.00
	Radiant Side Lamp, No. 2 Burner, Glass Fount, No. 2 Chimney,	4.00
	Climax Side Lamp, No. 2 Burner, Tin Fount, No. 2 Chimney,	4.50

Globes.

No		
0.	Tubular Lantern Globes,	.60
1.	Tubular Lantern Globes,	1.00
0.	Tubular Lantern, Bull's Eye,	2.00
0.	Tubular Lantern, Ruby,	4.00
0.	Tubular Lantern, Green,	4.00
0	Tubular Lantern, Blue,	4.00
	U. S. Tubular Lantern,	.60
2.	Tubular Hanging Lamp,	5.00
3.	Tubular, Hanging or Street,	5.40
39.	Railroad,	1.00

Burners.



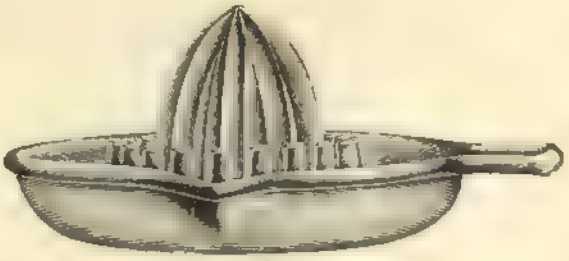
Nos. 0, 1 and 2.

1.	5/8 Tubular, for Standard Size Lanterns,	.80
0.	3/8 Tubular, for U. S. Lantern,	.80
2.	Tubular, for Royal	2.00
3.	Tubular, for Globe, Street or Hanging,	4.00
2.	Tubular, for Square Street,	4.00
1.	Sun Burner,	.60
2.	Sun Burner,	.80
3.	Sun Burner,	1.00

Lemon Squeezers.

Manny's.

No. 1.



No. 2.

No.		Per Dozen	No		Per Dozen
1.	Glass, for use with Tumbler, Third Dozen in a Box.	$1 75	2	Glass, for use without Tumbler, Half Dozen in a Box.	$3.00

Wood Frame.

No. 1.

0. Hardwood Frame, Wood Bowl and Compress, ... 2.00
1. Hardwood Frame, Porcelain Bowl and Compress, ... 6.00

Dean's Patent.

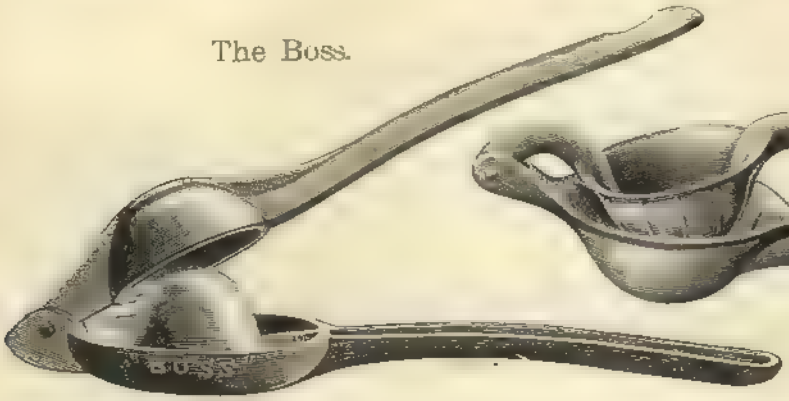
No. 3.

No. 2.

3 Japanned, with Porcelain Plate, . 5.00

2. Japanned, with Glass Cup, . 8.00
Extra Glass Cups for No. 2, . . 2.00

The Boss.



No. 4.

4. Boss, Malleable Iron, Tinned, . 5 00

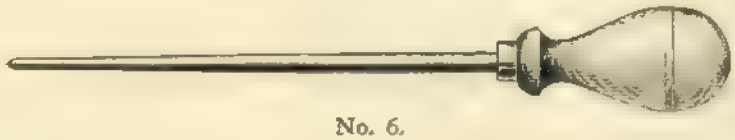
The Mogul.

No. 10.

10. Mogul, Malleable Iron Tinned, . 4.00

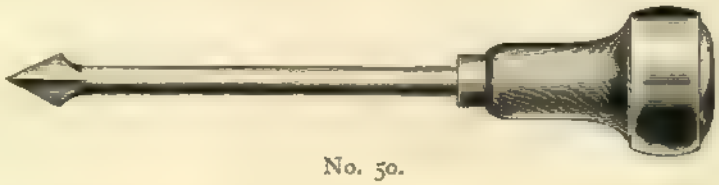
Half Dozen in a Box.

Ice Picks.



No. 6.

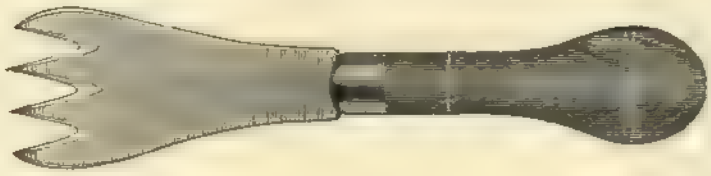
No.		Per Dozen
6.	Wood Handles, Blade ¼ x 5⅛ inches,	$1.00



No. 50.

50.	Hardwood Capped Heads, Forged Steel Blade, $\frac{5}{16}$ x 5 inches,	2 50

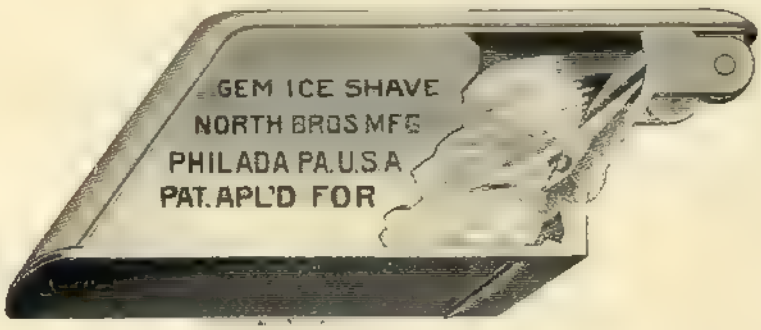
Ice Chisels.



No. 1.

1.	Ice Chisels, Steel Blade, Tempered and Polished,	4.00

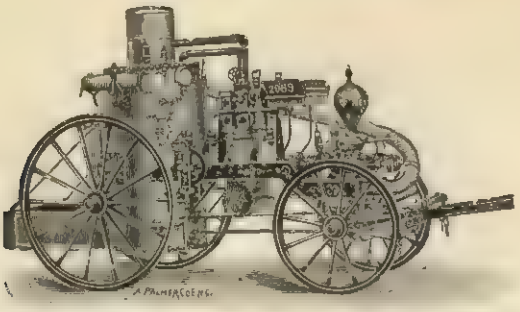
The Gem Ice Shave.



Gem Ice Shaves, Galvanized, ... 6.00

Adjustable Knife, Shaving Fine or Coarse. In Front of the Knife is a Receptacle about the Size of a Tumbler, in which the Shaved Ice collects.

MANSFIELD STEAM FIRE ENGINE.



These engines are furnished complete in every respect, with suction hose, wrenches, two lamps, two nozzles and firing tools, and each engine fitted with fuel pan, which has ample room for tools, two hours' fuel, and for fireman to ride. The engine is arranged for either horse or hand draft, or both. Those arranged to be drawn by horses have seats for the engineer and driver, and the lever of a powerful foot brake is readily operated therefrom. The brake on the engine drawn by hand is operated from the fuel pan.

THE BOILER is made from the best selected C. H. No. 1 boiler plate, or of best boiler steel, as preferred, with Otis steel fire box; the straight seams are double riveted, and heads double braced and stayed. Diameter is 36 inches; height 5 feet 6 inches; fire-box 32 inches by 20 inches. Boiler has 250 superior quality lap welded submerged boiler tubes 20 inches long. Steam can be raised in from four to eight minutes, from cold water. It will burn either wood or coal, and there is no danger of overheating. We put in a dumping or standing grate, as may be desired. All trimmings, such as gauges, whistle and pop valve, made from the best steam metal.

The boiler hangs forward of rear axles, on substantial springs. The wheels are hand-made, specially for this service, with iron hubs and hand-shaved spokes. Wheels are 40 and 60 inches diameter.

THE BOILER FEEDER is an independent steam pump, arranged to be worked also by hand when necessary to fill the boiler cold. The pump is neatly finished to correspond with the engine, and is of the best construction throughout, having capacity to work against twice the maximum pressure required. Its valves are so arranged that they can be taken out and replaced without stopping the engine or removal of bolts. Besides this means of supplying the boiler, connection is also made with main pumps, securing absolute certainty of uninterrupted water supply.

THE ENGINE has double cylinders working on quarter center cranks; has but one steam chest, and is as simple and few in parts as the simplest of ordinary single cylinder engines. It has no dead centers, but will start from any position; has no eccentrics, cross-heads or slides, and each and every part is provided against wear. Crank shaft, piston rod and connections made from steel, solid gun metal crank shaft boxes, ground joints, case hardened bolts and studs, self-setting steam piston packing, and fitted throughout with the best steam metal trimmings. First-class in every detail.

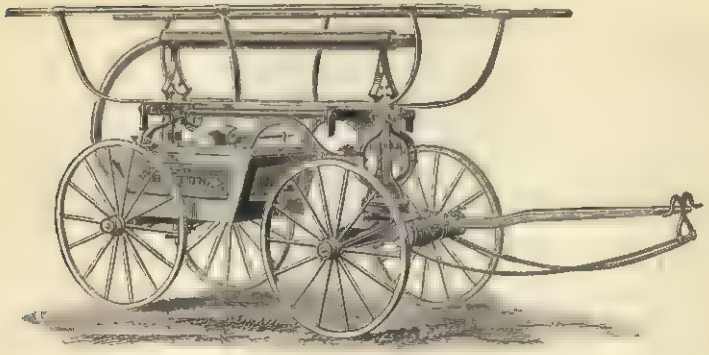
THE PUMP is connected directly to the main engine shaft, and is "rotary." No blows are given to the water, which enters and leaves in one continuous flow, with no irregular motion to the stream. There being no valves to stick or clog, it is always ready for work, and never requires priming. Sand, grit, leaves, sticks, saw-dust or dirt cannot clog it. The water-ways are large, short, direct and unobstructed. The gearing is of steel, cut from the solid; the shafts are large, made from best steel, and run in long and perfectly true gun metal boxes.

The engine is made in two sizes, and prices below are for style and finish represented in illustration on this page. Other degrees of ornamentation and finish will be furnished at special prices, on application.

SIZE 1—THREE STREAMS.—Capacity per minute 500 gals; height over all 8 ft. 9 in.; width over all 5 ft. 8 in.; length over all, including tongue, 21 ft. 8 in.; length without tongue 12 ft. 9 in. Price, complete, including 30 ft. suction hose, with couplings and suction basket, two nozzles, firing tools, fuel pan and wrenches.....$ 2,200

SIZE 2—TWO STREAMS.—Capacity 350 gals. per minute; height over all 8 ft. 3 in; width 5 ft. 8 in.; length, with tongue, 20 ft. 3 in.; length, without tongue, 12 ft. 8 in. Price, equipped same as size 1 .....$ 1,500

No. 5 CRANE NECK HAND FIRE ENGINE.

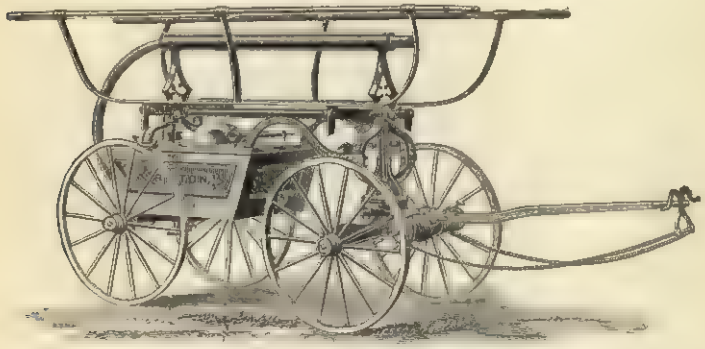


The pumps are 7¼ inches diameter and 3½ stroke; they discharge $\frac{6}{10}$ of a gallon at each stroke; the brakes are 12 feet long; the suction hose is 12 feet long, carried in a case, attached for use; the body or tub is made of pine with white oak bottom. It has one outlet for two inch hose, 1 play pipe with 2 nozzles; rope-reel with 2 cranks and drag rope; wheels 40 inches diameter forward, and 42 behind. The engine is well painted and striped in color, the weight of the engine is about 1,000 pounds; it will do good work with four men; there is room for sixteen men on the brakes; well manned it will throw water 130 feet.

Price in complete order for use.....$500 00

A Siamese coupling to throw two streams will be furnished with this engine for $20 additional.

No. 4 CRANE NECK HAND FIRE ENGINE.



The pumps are 9 inches in diameter, without change of stroke; the discharge one gallon at each stroke; the brakes are 14½ feet long, with two cross levers; the suction hose is 3 inches in diameter, 16 feet long, carried in a case, attached for use; the body or tub is made of the best seasoned oak. It has one outlet for 2½ inch hose; a Siamese for two streams; 2 play-pipes with 4 assorted nozzles; rope-reel with 2 cranks and drag rope; wheels 47 inches diameter forward and 49 inches behind. The engine is well painted and striped in color; the weight of the engine is about 1,600 pounds, it will do good work with six men; there is room for eighteen men on the brakes; well manned, it will throw 150 feet with a ¾ nozzle.

Price in complete order for use.....$700 00

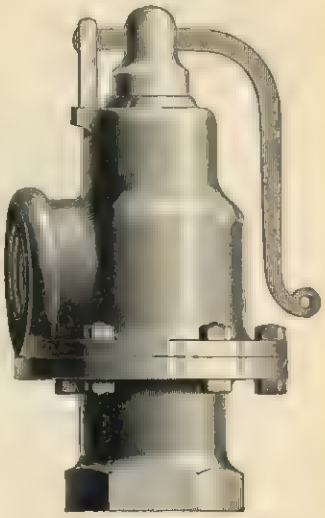
This engine can be fitted for 2 inch hose if desired.

POP SAFETY VALVES, FOR STATIONARY, PORTABLE AND MARINE STEAM BOILERS.

All Brass.

These Safety Valves are warranted reliable and accurate, and of superior quality. The utmost care is taken in their construction. They have full relieving capacity and are very sensitive. All valves are provided with a lock-key attachment, to guard against being tampered with, and are carefully tested. They have been approved and allowed by the Board of Supervising Inspectors of Steam Vessels for marine use.

Full directions are sent with every valve.



Iron Body—Angle Pattern.

Size Pipe, Inches	⅜	½	¾	1	1¼	1½	2	2½	3
Brass, Top or Side Outlet, each	$5 50	$6 00	6 50	7 50	9 00	11 50	18 00	28 00	38 00
Capacity for Boilers, horse-powers	3	5	8	10	15	20	30	60–75	75–100

In ordering Pop Safety Valves always state at what pressure the valve is to blow off. Unless otherwise specified, Pop Safety Valves will be sent set at 100 pounds.

WATER RELIEF VALVES.

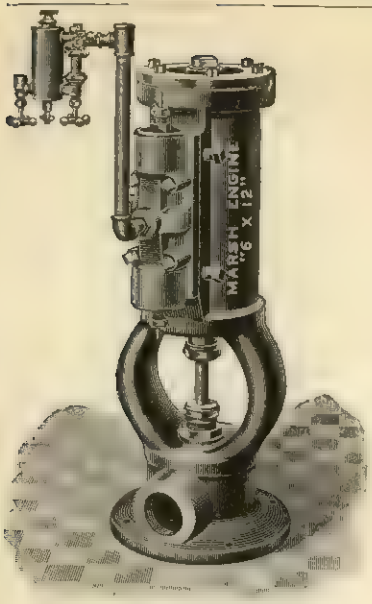
Cut shows Brass Pattern of Water Relief Valve. Iron Body can be furnished, as per list. 2½-inch and smaller are furnished with screwed openings only. Larger sizes either screwed or flanged. In ordering always state pressure to be carried, and if flange is desired, state diameter.

Size, Inches	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	5½	6
Side Outlet, Inches	¾	1	1¼	1½	2	2½	3	3½	4	4½	9	10	10
Price, Brass	$10 00	12 00	15 00	20 00	30 00	50 00	....	....	....	....	....	....	....
Price, Iron Body	....	....	....	....	30 00	50 00	65 00	80 00	100 00	115 00	125 00	150 00	180 00

FUSIBLE PLUGS, FOR STEAM BOILERS.

Our Fusible Plugs are made of best steam metal, with center cored and filled with a material fusible by contact with the dry heat of a furnace fire, but proof against any possible temperature of water in the boiler. They are placed just under the water line in front boiler head. When the stage of water falls below that point the fusible core melts, and escaping water and steam puts out the fire.

	½ Inch.	¾ Inch.	1 Inch.
Price	$0 60	0 75	1 00



THE MARSH STEAM OR GAS PRESSURE ENGINE FOR DEEP WELL PUMPS.

Capacity 400 to 4,000 Gallons per Hour.

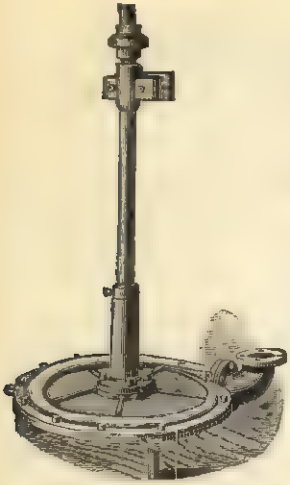
This engine is designed for general pumping, to take the place of windmills and other cumbersome and expensive contrivances. It is adapted for pumping water from deep or shallow wells for farms, factories, dwellings, etc. Is self-regulating in every way, and is the cheapest and most economical device for the above purpose yet offered. It can be attached to any plunger rod; will elevate water from any depth, and do it constantly, without any attention.

It is being used in the natural gas region, and works equally as well with gas pressure as with steam. Is perfectly noiseless.

Price List and Table Showing Size of Water Cylinder Suitable for Elevations of 25 to 300 Feet, with 80 Pounds Steam Pressure.

Size of Engine.	Elevation of Water in Feet.	Size of Water Cyl Adapted.	Pipe Connection.	Strokes per Minute.	Capacity per Stroke.	Capacity per Hour.	PRICE.
4 x 6	25	4¼	2	40	.4131	990	$40 00
	50	4	2	40	.3264	780	
	75	3½	1½	40	.2499	590	
	100	3	1½	40	.1836	440	
	150	2⅝	1½	40	.1275	300	
	200	2	1	40	.0816	195	
	250	1¾	1	40	.0625	150	
	300	1½	1	40	.0459	110	
4 x 8	25	4¾	2	40	.508	1320	50 00
	50	4	2	40	.4352	1040	
	75	3½	1½	40	.3332	800	
	100	3	1½	40	.2448	585	
	150	2⅝	1¼	40	.1700	408	
	200	2	1	40	.1088	260	
	250	1¾	1	40	.0833	200	
	300	1½	1	40	.0612	145	
6 x 12	25	6	3	30	2.468	2610	100 00
	50	5	3	30	1.92	1835	
	75	4½	2	30	.8262	1485	
	100	4	2	30	.6528	1175	
	150	3¾	1½	30	.4998	900	
	200	3	1½	30	.3672	660	
	250	2½	1¼	30	.2550	459	
	300	2	1	30	.1632	290	
7 x 24	25	7	3½	15	4.00	3600	200 00
	50	6	3	15	2.94	2640	
	75	5	3	15	2.31	1845	
	100	4½	2	15	1.65	1485	
	150	4	2	15	1.30	1175	
	200	3½	1½	15	1.00	900	
	250	3	1½	15	.73	660	
	300	2½	1¼	15	.51	460	
8 x 36	25	8	4	10	7.83	4700	300 00
	50	7	3½	10	6.00	3600	
	75	6	3	10	4.40	2640	
	100	5	3	10	3.06	1835	
	150	4¾	2	10	2.48	1485	
	200	4	2	10	1.96	1175	
	250	3½	1½	10	1.50	900	
	300	3	1¼	10	1.10	660	

NOTE.—Capacity per hour is for Single Acting Water Cylinders. Double Acting Water Cylinders can be used *on short suction lifts* and will discharge twice the amount of water. In second column the elevation in feet means the *combined suction and discharge* in feet.



Vertical Pump.

CENTRIFUGAL PUMPS.

The annexed cut represents our Vertical Pump, so named on account of the shaft being perpendicular. The piston works inside the scroll, running lightly in nicely fitted bearings. The fluid enters the pump at the bottom and is discharged at spout shown in cut.

The Vertical Pump is intended to stand on the bottom of the junk, tub, well or reservoir, as the case may be, or it can be fastened at any required distance from the bottom; the only essential point being that the Pump should be constantly immersed in the fluid to be raised.

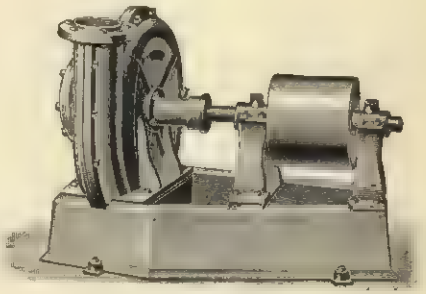
For pumping out lock pits, tan vats, cofferdams, etc., or for any place in which large quantities of foul water, containing mud, sand, bark, gravel, etc., are to be raised, we guarantee our pump to excel all others. Always ready to run, and rarely needs repairing. It raises very large quantities of fluid with very little power. We furnish pulley with each pump.

In putting down, be careful to have a perfect bearing for each leg, and see that the shaft turns easily. Put the pulley on the upright shaft, and near it a guide pulley, under or over the belt as the case may require, and make a quarter twist in the belt when you run from a horizontal shaft. It makes no difference which way the driving shaft runs, as the twist of the belt may be changed to correspond.

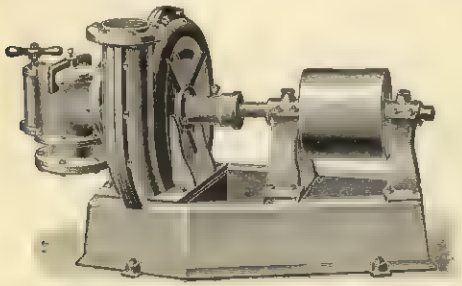
Cut at right shows our plain Horizontal Pump. It operates essentially the same as the vertical pattern, but is adapted to a greater variety of uses.

Whenever the Horizontal Pump is used, it is necessary that the water in the tank should be as high as the top of the pump, unless a foot valve is used in the bottom of induction pipe, in which case it may be set not to exceed twenty feet above water. This style pump is very largely used by paper makers and manufacturers generally. The capacity and speed is in all respects the same as the vertical.

We make the Horizontal Pump either right or left-hand, as may be ordered. If not otherwise ordered we send right-hand.



Horizontal Pump.



Horizontal Pump, with Primer Attachment.

In cut at left we present the Suction Primer attached to the Horizontal Pump. The Primer is a small lift pump worked by hand. Before starting the large pump, a pet cock on the top of the shell is opened, and the Primer is worked until no more air is driven from the cock, when it is closed, and the main pump is then ready to be started. The Pump may be emptied by withdrawing the screws near the bottom of the Primer. This should always be done where the pump is liable to freeze up when not in use.

It is essential that the stuffing boxes and all joints should be well packed and air-tight.

The suction pipe may run horizontally or bend in any direction to suit the location of the fluid to be raised. It should not, however, descend towards the pump, which should be higher than any part of the suction pipe.

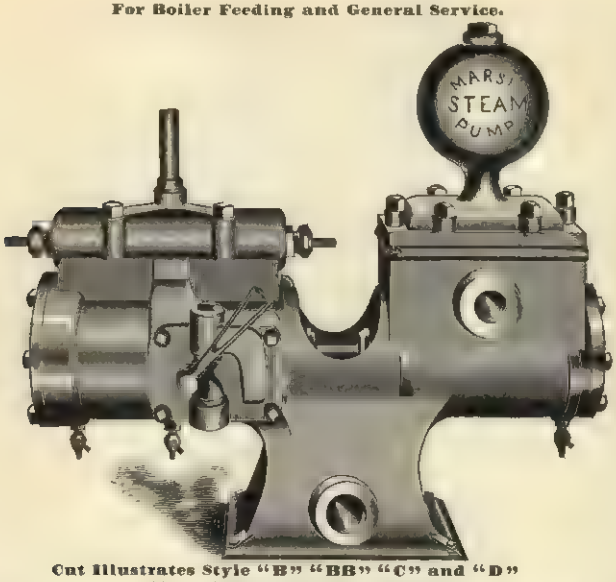
The amount of elevation (as basis of speed) should be reckoned from bottom of suction pipe to top of discharge pipe.

SPECIAL SAND PUMP.

We make Centrifugal Pumps for this purpose, extra heavy shells, lined with steel and bolted in so it can be replaced when worn, thus saving shell at all times. The steel shaft has a bronze sleeve at bearing in pump, and large gland and stuffing box which protects shaft from being worn by the sand. These pumps are used for obtaining sand and excavating. We also make small pumps with chilled cast linings throughout, and pistons with bronze sleeve on shaft, for pumping sand for sawing stone and marble in stone mills.

MARSH STEAM PUMPS.

For Boiler Feeding and General Service.



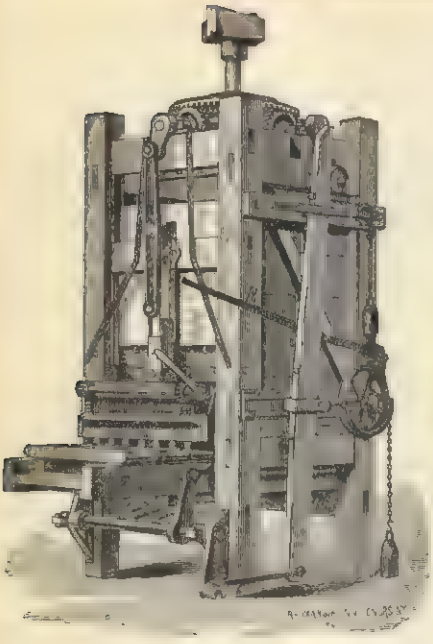
Cut Illustrates Style "B" "BB" "C" and "D"
20 to 100 Horse Power Capacity.

In the Marsh Steam Pump is offered all the advantages possessed by the injector and usual type of pumps combined, with some additional advantages not possessed by either. It is neat and compact in form, and ornamental to an engine. It can be set to supply any amount within its capacity. The number of strokes per minute is not materially varied by the rise and fall of steam pressure, and the pump is not injured by rapid reciprocations when the water supply gives out, as the valve mechanism is in itself an automatic governor. In point of economy it cannot be excelled by any boiler feeder, as *it returns to the boiler all the steam it uses.* One of the most noticeable features of the Marsh Steam Pump is its facility of condensing its exhaust steam and returning it with its heat to the boiler. The lever shown on cut is attached to an exhaust deflecting valve, to deflect the exhaust steam either into the atmosphere or into the suction chamber. When deflected into the suction chamber, it is condensed by the cold water, and warms it, and is then pumped into the boiler. Thus the heat employed in the steam which runs the pump is saved, and the work done is virtually obtained without cost. Send for circulars giving detailed description of the full line of Marsh Pumps for every service.

Size	Steam Cylinder	Water Cylinder	Stroke	Gallons per Stroke	Gallons per Minute	Gallons per Hour	Steam Pipe.	Exhaust Pipe.	Suction Pipe	Delivery Pipe	Floor Space	Horse Power	Weight	Price.
B	2½	1⅝	2	.0128	3.33	200	¼	¼	¼	¼	7 x 12	20	401bs	$ 30
BB	3	1⅞	2½	.0260	6.66	400	¼	¼	1	¼	8 x 16	35	75lbs	50
C	4	2⅝	3	.0575	10.83	650	¼	¼	1¼	¼	10 x 21	60	145lbs	75
D	5	3	3½	.1071	16.66	1,000	¼	¼	1½	1	11 x 23	100	190lbs	100
E	5	3	6	.1836	25	1,500	¾	1	2	1¼	10 x 32	150	275lbs	150
G	5½	3½	6	.2499	33	2,000	¾	1	2	1½	12 x 34	200	400lbs	175
F	6	3⅝	8	.3574	45	2,700	¾	1	2	1½	13 x 37	250	375lbs	200
H	7	4	8	.4352	58	3,500	1	1½	2½	2	15 x 39	350	525lbs	250
I	8	5	10	.85	100	6,000	1	1½	3	2½	18 x 48	600	950lbs	325
L	10	6	12	1.46	146	8,750	1	1½	3½	2½	18 x 52	1,000	1,150lbs	425
M	12	7¼	12	2.14	216	13,000	1¼	2	5	4	19 x 56	1,500	1,350lbs	525
O	16	10	16	5.44	408	25,000	3	3½	8	7	24 x 68	2,500	3,040lbs	750

Add for HAND LEVER on boiler feed pumps "B" and "BB," $5.00. On sizes "C," and "D," $10.00. This attachment is convenient for filling or washing out cold boilers.

MARTIN'S IMPROVED BRICK MACHINE.

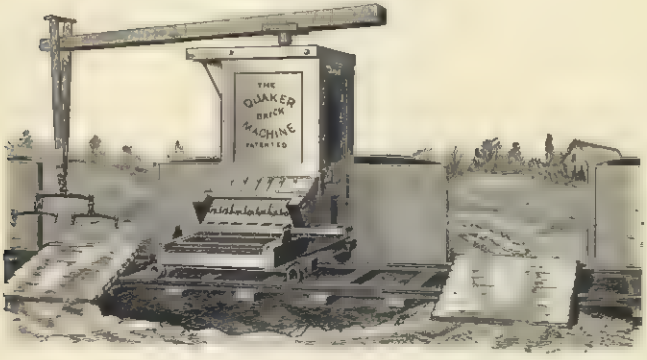


This well known machine is automatic in its action, and what is termed a sand striking machine, the molds being dipped in sand before placing them in the machines. It grinds and tempers its own clay, and is particularly adapted to the working of hard and heavy clay. It does its own moulding, and delivers the bricks in front, ready for the carrier to place them on the yard.

The capacity of the steam power machine is 4,000 bricks an hour, and the horse power 2,500 It can be run by inexpensive labor. Any man of ordinary intelligence can control its operation. The horse power machine requires one pair of horses and seven men, and the steam power one man extra. The steam power machine is made complete, with an extra crown gear, pinion and clutch; also, one length of shafting on top, turned, ready for couplings. The horse power machine is fitted ready for the sweep. Our brick molds are of a superior quality, made of cherry lumber, iron bound top and bottom. Our off-bearing trucks are made on the most approved plan, with two springs, and fitted with caps over the wheels. The weight of the machine is about 4,500 pounds. Size 4½x4½ feet, and 9 feet high A machine requires 8 trucks and 18 molds. If no trucks are used, only 10 molds will be needed. The Martin is more extensively used than any other in the world. Send for prices and special circulars.

THE QUAKER IMPROVED BRICK MACHINE.

Steam or Horse Power.

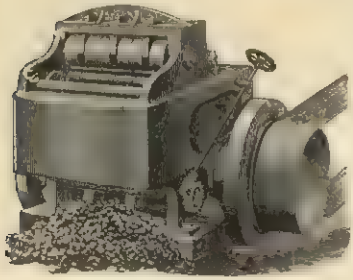


This machine is among the best known and most extensively used of any in the market It is of the same class as the Martin above described, and makes a sanded brick from wet or plastic clay It tempers its own clay and mould the brick automatically at the rate of 15,000 to 20,000 per day with horse power, and may be driven twice as rapidly by steam power. Send for circulars

Horse Power Machine	price,	$300 00
Regular Steam Power Machine	"	400 00
Extra Heavy Steam Power Machine	"	525 00

BRENNAN PATENT ROCK BREAKER.

For Macadam and Ballast.



We mention here simply a summary of the advantages possessed exclusively by the Brennan Breaker. An investigation will substantiate the truth of each and all these claims.

It takes larger rock, gives more uniform products and larger amount than any other crusher; its ability to change the character of the stroke of the machine, in proportion to the size of the product desired; the simple and complete method of changing all adjustments while in motion; its positive safety from breakage; its perfect lubrication; the minimum of power required.

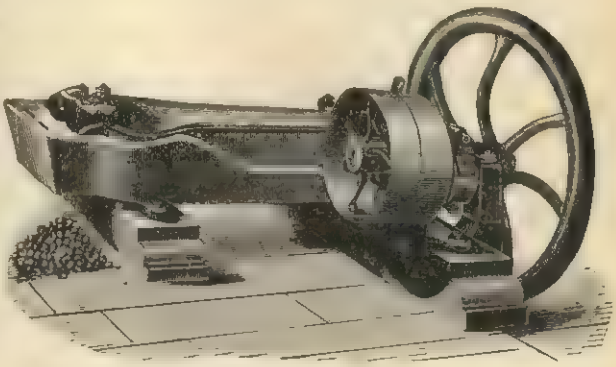
No	Size, or Receiving Capacity.	Approximate Product per hour in Tons to Macadam Size	Approximate Weight	Proper Speed.	Price.
1	12 x 37	30 to 40	32,000	300	
2	10 x 25	20 to 25	15,000	300	
3	8 x 25	15 to 18	12,000	300	
4	5 x 20	10 to 12	6,000	400	

FOSTER'S ROCK AND ORE BREAKER.

For Blast Furnaces, Railroad Ballast, Macadam and general mining purposes

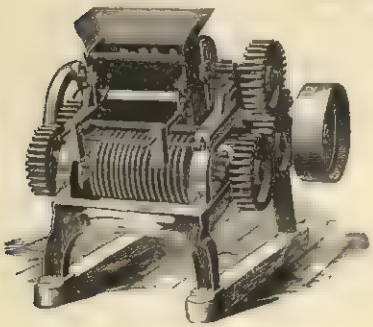
PRICES FOSTER'S ROCK AND ORE BREAKER.

Opening in Jaws.	Speed.	Horse Power.	Width of Belt.	Diameter of Pulley.	Weight			Floor Space Required.	PRICE F. O. B. Pittsburg.
			in.	in.	Heaviest Piece.	Total	10 Hours 1¼ to 2¼ Rise Cause		
					pounds	pounds	tons		
4x 9 3-4	One	2	2	10	700	1,800	10	4'x3'4"	$ 190.00
6x13 3-4	Three	4	4	15	2,300	4,500	15	5'x4'3"	290.00
7x15 3-4	Three	7½	6	21	2,800	7,000	15	6'x5'3"	500.00
22x9 3-4	Light		9		5,500	15,000	125	M'4	1,000.00



THE WALLACE CLAY CRUSHER.

For Tile and Brick Makers.



No. B2

One of the best and most successful machines in the market

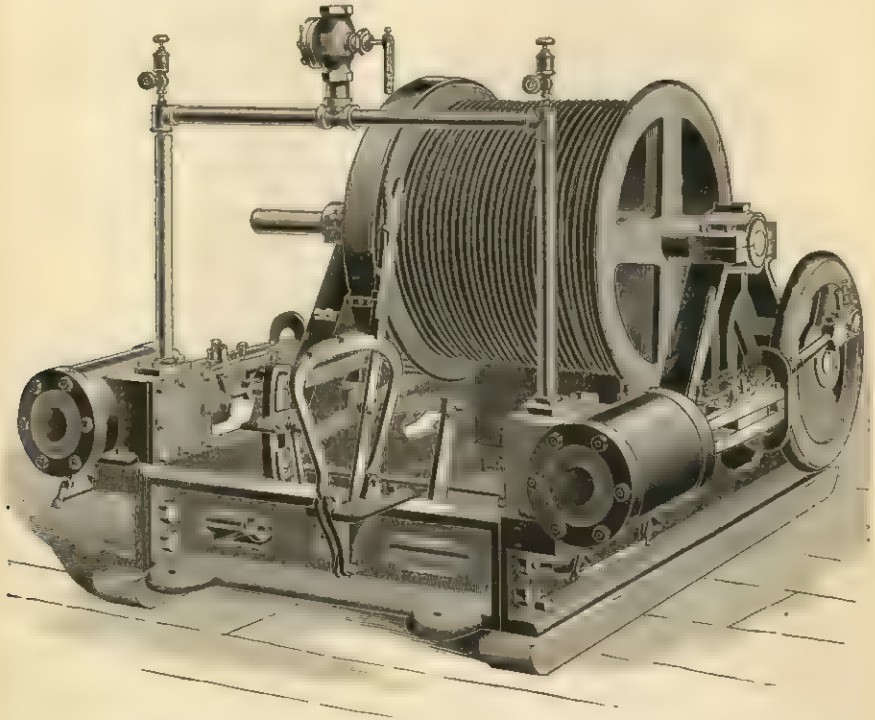
No. 2 Crusher, weight 2,200 lbs.; suitable for tile mills, $100.00; with elevator. .....$ 240 00

No. B 2 Crusher, weight 3,000 lbs.; capacity sufficient for 30,000 brick 10 hours $325.00; with elevator 375 00

No. 3 Crusher, weight 6,000 lbs ; capacity sufficient for 800,000 brick 10 hours, $750.00; with elevator 1,000 00

DOUBLE CYLINDER, REVERSIBLE LINK MOTION MINE HOISTING ENGINE.

These engines having large drums are particularly adapted for mines, inclines and other rapid hoisting. The drums are either plain, lagged, or grooved, as desired, and lagging or grooving is done for $\frac{3}{4}$, $\frac{7}{8}$ or 1 inch wire rope, as ordered. The engines being reversible, two loads or hoists may be operated at the same time, one going down and the other coming up. They are very simple and strong in design and construction, rapid in motion, easily handled and occupy but comparatively little floor space, while the best results are produced in their efficient working. Each engine is fully equipped with fittings, and supplied with automatic brake, when so specified in order. These engines are made with either friction or reversible link motion, or both as desired.



Number.	Horse-Power.	Dimensions of cylinders		Dimensions of Drum			Dimensions of bed plate		Shipping Weight Pounds	Price of Engine complete	No. ft. Drum will hold, single coil.			Speed p'r minute in feet.	Weight, Hoisted Single Rope, pounds.
		Diameter Inches.	Stroke Inches	Diameter Inches.	Length Inches	Diameter Flanges.	Width Inches	Length Inches			$\frac{3}{4}$ inch Wire Rope	$\frac{7}{8}$ inch Wire Rope	1 inch Wire Rope		
29	20	7	10	30	26½	36	54	74	4500	$ 805	278	238	208	325	2000
30	25	7¾	10	30	26½	36	54	74	5500	900	278	238	208	325	3000
31	30	8½	10	30	26½	36	54	74	6500	1,050	278	238	208	325	4000
32	40	9	12	48	48	54	76	92	12000	1,510	804	687	603	517	4500
33	50	10	12	54	48	60	76	98	12500	1,610	904	775	678	581	5000

Gymnasium Goods.

McCaffrey Striking Bags.

NO.	DESCRIPTION.	EACH.
6	Bag Made of Good Leather, Reinforced, - - -	$ 6 00
	Price of Platform 6 feet in Diameter, Chance Wood, Substantially Made -	12 00
	Standard 1½ inch Pipe, Painted Platform, Per Foot,	0 [illegible]
	Standard Flange, Per Set of 8,	1 [illegible]
	Guy Wires, including Turnbuckles and Ceiling Plates, - Per Set of 4,	4 00

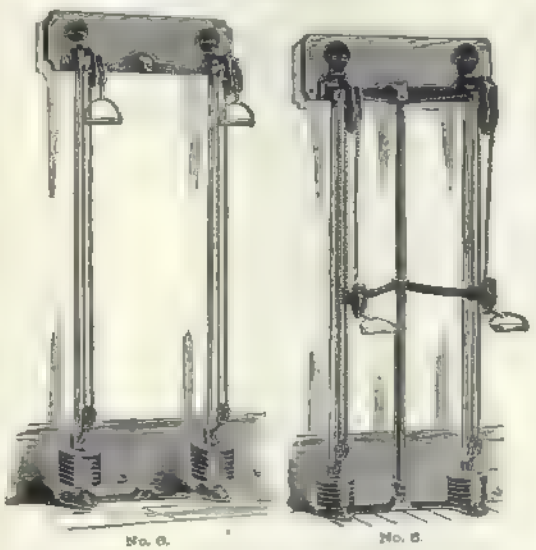
No. 1

Ramsey Elastic Striking Air Bags.

NO.	DESCRIPTION.	EACH.
1	Men's Size. The Popular Size for General Use, Outside Cover of Soft, Strong Ducking, - - - - - - - - - -	$6 00

Amateur sparrers professional pugilists and business men use it and give it unanimous recommendation as the best exercise known.

Wall Machines.



No. 6. No. 6.

NO.	DESCRIPTION.	EACH.
6	Japan Finish, - - - - - -	$10 00
5	Japan Finish, - - - - - -	12 50

The No. 6 is without the center bar and adjustable arm attachment, making it a simple but practical chest machine at a popular price. In other respects it is similar to the No. 5. The No. 5 machine, is a decided improvement over all other chest machines. The guide rods consist of 3/4 inch steel [illegible] fastenings are of backstein in place of [illegible] For the center bar we have substituted square machinery steel [illegible] arm [illegible] A [illegible] adjustable [illegible] through a wood [illegible] feet or over [illegible] arrangement for overhead [illegible]

Whitely Exercisers.

DESCRIPTION.	EACH.
Whitely Exercisers, - - - -	$5 00

An ideal gymnasium for home or traveling use

Noiseless, warranted to remain so

Weighs less than two pounds.

Can be carried in your pocket or corner of valise and used in hotel, sleeping car or stateroom of steamer a special attachment enabling travelers to suspend the Exerciser anywhere in a second

Can be put up permanently in two minutes without tool of any kind.

With a few extra hooks, can be used in every room in the house. The hooks are of steel wire, strong, though small, and do not injure the woodwork.

No straps to buckle. No weights to change, self-adjusting resistance of two to forty pounds.

No jerks, no dead weights—you'll think it's alive

Exercises all the muscles, not the upper limbs only.

Attachment for foot movements.

Makes all movements that can be made on weight machines and many others that would break any pulley weight machine all to pieces.

A thing of beauty and a hustler forever.

Equally adapted to ladies, gentlemen or children

Written endorsements from the very highest authorities; ask for pamphlet containing them

World's Columbian Exposition Medal and Diploma awarded for merit and general superiority

Will do the work of several cumbrous machines aggregating a cost of fifteen to thirty dollars.

Foot Balls.

Spalding's Official Intercollegiate Foot Ball.

Officially adopted by the Intercollegiate Association and is the only ball used in the match games between the large colleges.

This is the finest Foot Ball ever made. Every one is tested before leaving the factory, and warranted in every way.

Each ball is packed in a separate box and sealed, so our customers are sure when they receive a box with seal unbroken that a perfect ball will be found inside.

DESCRIPTION	EACH
No. J. Spalding's Official Intercollegiate Foot Ball,	$5 00

The American Black Rubber Foot Ball.

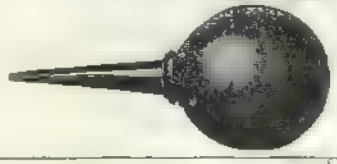
NO.	DESCRIPTION	EACH
1	20 inches Circumference,	$0 60
2	24 inches Circumference,	75
3	26 inches Circumference,	90
4	28 inches Circumference,	1 00
5	28 inches Circumference,	1 25
6	30 inches Circumference,	1 50
	Extra Keys for Foot Balls,	05
	Extra Valves for Foot Balls,	10

Rubber Foot Ball Bladders.

Good Quality, Made of the Best Ind a Rubber.

NO.	DESCRIPTION	EACH
3	For Rugby Ball No. 3,	$0 80
40	For Rugby Ball No. 4,	90
50	For Rugby Ball No. 5,	1 00
60	For Rugby Ball No. 6,	1 10
70	For Rugby Ball No. 7,	1 50
30A	Association Bladder,	80
40A	Association Bladder,	90
50A	Association Bladder,	1 00
60A	Association Bladder,	1 10
70A	Association Bladder,	1 20
J	Same as Intercollegiate Ball	1 50

New Patent Foot Ball Inflator.



Each,	$0 50

The Improved Rugby Ball.

Leather, Complete with Bladder, Best Made.

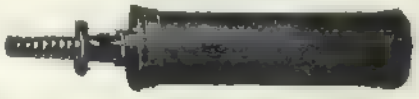
NO.	DESCRIPTION	EACH
03	25 inches Circumference,	$2 50
04	27 inches Circumference,	3 25
05	29 inches Circumference,	4 00
06	30 inches Circumference,	4 50

Foot Ball Stockings.

NO.	DESCRIPTION	PER PAIR
00	New Linen Sole Stocking; Heavy Weight, Handsome Ribbed, all Colors. The feet are made of the Finest Linen, which is almost as soft and pliable as silk,	$1 25
0	New Linen Sole, same as No. 00, only an Lighter Rib,	1 00
1	Heavy Plain Wool, Long Stocking,	1 00
2	Medium Plain Wool Stocking,	75
3	Ordinary Plain Stocking	50
4	Cotton Stocking,	40

Linen Sole.

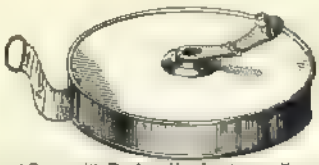
Foot Ball Inflators.



Each,	$1 00

Measuring Tapes.

Asses' Skin.

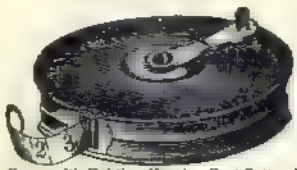


Brass Bound Case, with Folding Handle, Cotton Tapes, ½ inch wide

No.	30	31	32	33	34	35	36	37
Feet,	25	30	40	50	66	75	80	100
Per Dozen,	$3 75	4 00	4 50	5 00	6 00	7 50	8 00	9 0

HALF DOZEN IN A BOX

Patent Leather

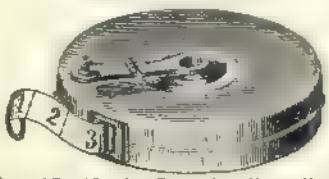


Patent Leather Case, with Folding Handle, Best Cotton Tapes, ½ in. wide.

No.	43	45	46	47	48
Feet,	50	66	75	80	100
Per Dozen,	$6 25	7 25	8 75	9 25	10 75

HALF DOZEN IN A BOX

Bend Leather.



Oak Tanned Bend Leather Case ½ Inch Heavy Holland Tape

No.	120	121	122	123
Feet	50	66	75	100
Per Dozen	$16 00	17 00	18 00	20 00

HALF DOZEN IN A BOX

Chesterman's.

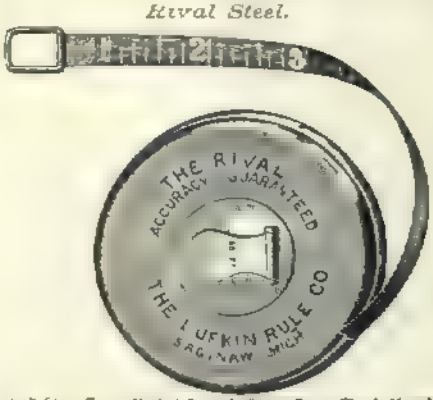
No 34 L, Wired Linen Tape, in 10ths or 12ths, Natural Color Leather Case

Feet,	50	66	75	100
Each,	$2 60	3 00	3 30	4 20

No 38 L, Steel Tape, in 12ths, Natural Color Leather Case Flush Handle.

Feet,	50	66	75	100
Each,	$7 20	9 20	10 40	12 80

Rival Steel.

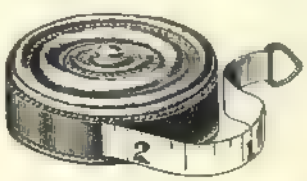


¼ Inch Steel Tape, Nickel Plated Brass Case Flush Handle.

Feet,	50	75	100
Each,	$5 00	6 50	8 50

ONE IN A BOX.

Pocket Tapes.



NO.	DESCRIPTION	PER DOZEN
155	Nickel Plated Case, Center Stop, 5 ft Tape	$4 00

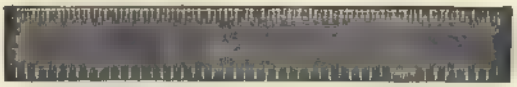
ONE DOZEN IN A BOX

Nos 24 and 25 — No 290

NO	FEET	DESCRIPTION.	PER DOZEN.
24	3	Nickel Plated Case, Patent Spring with Stop, ½ inch Linen Tape,	$3 25
25	5	Nickel Plated Case, Patent Spring, with Stop, ½ inch Linen Tape,	5 50
290	5	Nickel Plated Case Patent Spring, with Stop, ½ inch Steel Tape, with Centimeters and Inches,	18 00

Nos 24 AND 25 HALF DOZEN No 290 ONE DOZEN IN A BOX

Steel Machinists' Rules.



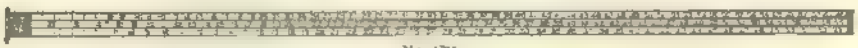
INCHES.	DESCRIPTION.	PER DOZEN
3	Polished Spring Steel, marked in 8ths, 16ths, 32nds and 64ths, Width $\frac{5}{8}$ inch,	$ 4 80
6	Polished Spring Steel, marked in 8ths, 16ths, 32nds and 64ths, Width $\frac{5}{8}$ inch,	10 20
12	Polished Spring Steel, marked in 8ths, 16ths, 32nds and 64ths, Width $\frac{5}{8}$ inch,	19 20

Yard Sticks.

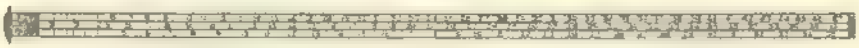
NO	DESCRIPTION.	PER DOZEN
41	Brass Tipped, Polished,	$3 50
50	Hickory, Brass Capped Ends, Polished,	4 50

ONE DOZEN IN A PACKAGE

Board Rules.



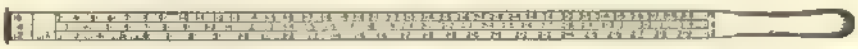
No. 43½.



No. 49.

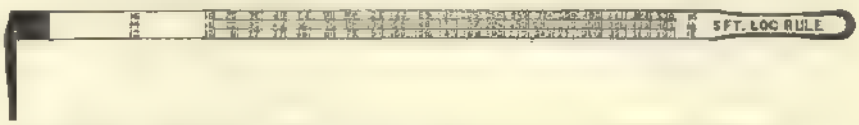
NO	DESCRIPTION.	PER DOZEN
48½	Board Stick, Flat, Hickory, Cast Brass Head and Tip, 6 lines, (12 to 22 feet,) 3 feet long,	$12 00
49	Board Stick, Flat, Hickory, Steel Head, Brazed, Extra Strong Graduations, (12 to 28 feet,) 3 feet long,	26 00

HALF DOZEN IN A PACKAGE.



NO	DESCRIPTION.	PER DOZEN.
2	Hickory Board Rule, Steel Head, Length 3 feet,	$2[illegible] 00
1	Hickory Inspectors' Rule, Steel Head, Length 3½ feet,	3[illegible] 00

Log Rules.

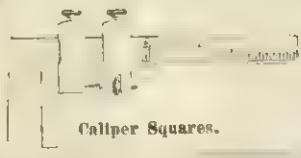


DESCRIPTION	PER DOZEN
Scribner's Solid Hook, figured to 48 inches, Handle 6 inch,	$3[illegible] 00
Doyle's, Solid Hook, figured to 48 inches, Handle 8 inch,	3[illegible] 00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

SQUARES.

Fig. 609.

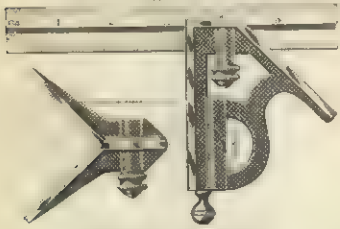


Caliper Squares.

These Caliper Squares are graduated on one side to 64ths and the other side to 100ths of an inch. They are furnished with and without adjusting screws. The 4 in., 6 in. and 9 in. Caliper Squares take inside as well as outside measurements. The 4 in. Caliper Square is also made graduated to read to ½ m.m. instead of 64ths of an inch. The 6 in. and 9 in. Caliper Squares have hardened jaws.

No.	Price without Adjusting Screw	Price with Adjusting Screw	Size, Inches	Length of Jaws	Width of Jaws Closed
700	$2 25	$3 50		¾ in.	
702	3 50	4 50	4	1⅛	¼ in.
704	$5 50	$ 7.50	6	2 in.	1 in.
706	9 00	11 00	9	3¼	1

Fig. 610.



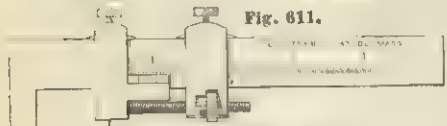
Combination Square.

Every tool warranted accurate. With the adjustable scale, this forms one of the most convenient and useful tools ever devised for mechanics' use. One is a complete substitute for a whole set of common try squares, and is one of the best gauges ever made for transfering exact measurements or laying out work. It is also convenient for a depth gauge, or to square in a mortise. For a mitre it is perfect, while with the auxiliary center head it forms a centering square, both inside and outside, which for convenience and accuracy has no equal.

4 in.,	without center head or level		$1.00
6 "	with center head	$2.00 without	1.50
9 "	" " "	2.50 "	1.75
12 "	" " "	3.00 "	2 00
18 "	" " "	3.50 "	2 50
24 "	" " "	4.50 "	3 50

The 6, 9, 12, 18 and 24 inch have levels and center heads, and will be sent complete unless otherwise ordered The 18 and 24 inch have same stock as 12 inch

Fig. 611.

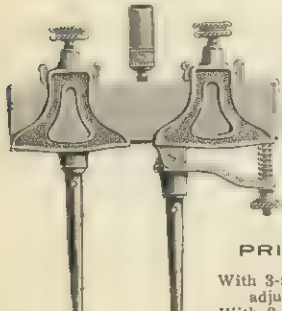


Micrometer Caliper Square.
(For inside and outside measure)

This instrument is invaluable, as it enables one to enlarge or decrease work one or more thousandths from that calipered, and fills the bill for both a first class-caliper square and micrometer of large scope and quick adjustment. The jaws are 1⅝ inches long, hardened, and open four inches One side of the beam is graduated in 64ths and the other 40ths; and either side may be used as a common caliper square, or, through the micrometer, to show 1000ths full length, on either inside or outside work. This is done by first setting the indicator mark on the movable jaw to agree with any division nearest the size wanted. Fasten it there, slack binding clasp and turn the micrometer nut to agree with indicator mark on the clasp; now tighten this, slack movable jaw and turn micrometer nut, counting 1000ths, adding to or taking from the divisions shown on beam at the starting point An excellent feature of this instrument is the spiral spring between jaw and clasp, which not only takes up all back lash, but limits the pressure against the work to strength of spring This is instantly felt through released pressure on the nut, and prevents springing the jaws, thus calipering to a nicety

Price, in Morocco Case, $8.75; price, without case, $8.00. Sent with case unless otherwise ordered.

Fig. 612.



No. 50.—Cook's Improved Trammel Points.

TRAMMEL POINTS.

Made of bronze metal, with forged steel points, hardened. Either point can be removed, and the pencil socket accompanying each pair put in its place.

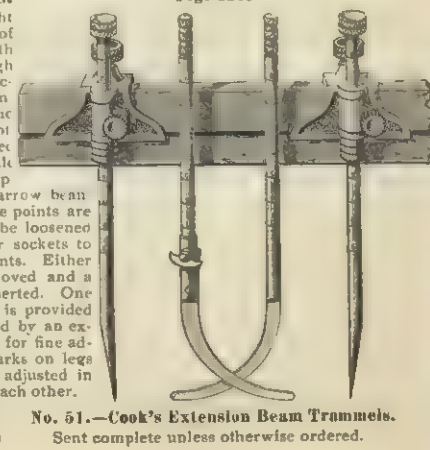
Adjustable like *spring dividers.* Light and durable.

The cut on the right represents a pair of trammel heads, with an opening through the underside to accommodate the extension, giving width and stiffness in proportion to the length required for large work, while it is equally well adapted to receive a narrow beam for light work. The points are eccentric, and may be loosened and rotated in their sockets to make fine adjustments. Either point may be removed and a common pencil inserted. One of the caliper legs is provided with a joint, worked by an eccentric thumb piece for fine adjustments. The marks on legs enable them to be adjusted in proper relation to each other.

PRICE-LIST.

With 3-inch points, adjustable	$2 50
With 3-Inch points, not adjustable	1.50
Extra long points, 5-inch, per set	.35
Price, complete	$3 25
Price, without caliper legs	2.50

Fig. 613.



No. 51.—Cook's Extension Beam Trammels.
Sent complete unless otherwise ordered.

Miller and Rochester Table Lamps.

No. D9535

Plain parts of Vase finished in Royal (Old Ivory), with Crown, Base, Handles and Ornaments in Bright Gold.

NO.	DESCRIPTION	EACH
D9535	Lamp, complete as shown above, with 12 inch Decorated Dome Shade, -	$17 10
D9534	Lamp, as above, without Chimney, Shade or Holder. - - -	15 75

Height to Burner, 14 inches. With extra large Detachable Miller Fount with Chimney Lift.

No. 9402.

Heavily Embossed, Oxidized Silver Finish. Detachable Rochester Metal Fount.

NO.	DESCRIPTION	EACH
9402	Lamp, complete as shown above, with 10 inch Decorated Dome Shade, - - - - - -	$23 60
9403	Same, but without Shade, Tripod or Chimney. - - - -	22 25

Height to Burner, 14 inches.

Metal Central Draft Lamps.

Beautiful in Design
Tasteful in Effect
Stylish as well as
Convenient.

No D9509

NO.	DESCRIPTION.	EACH.
D9509	Lamp, as shown above, Miller Burner, without Chimney, Shade or Holder, Cast Open-work, Gold Plated,	$13 90
D9510	Same as above, but complete with 10-inch Decorated Bisque Dome Shade and Holder. -	15 25

Height to Burner 14 inches.

With extra large Detachable Miller Foust and Chimney Lift Burner

These Lamps can be lighted without removing Chimney or Shade. Can be rewicked in an instant.

No D9546

NO.	DESCRIPTION.	EACH
A9547	Lamp, as shown above, without Chimney, Shade or Holder, Polished Gilt and Mat Silver Finish, -	$ 9 25
A9547	Same as above, but complete with 10-inch Decorated Bisque Dome Shade and Holder -	10 65

Height to Burner, 12 inches.

We cheerfully guarantee the burning qualities of all the Lamps here shown.

No D9512

NO.	DESCRIPTION.	EACH.
D9512	Lamp, as shown above, Miller Burner, without Chimney, Shade or Holder, Gold Finish, - - - - - - -	$11 10
D9513	Same as above but complete with Decorated Bisque Dome Shade -	12 30

Height to Burner, 18½ inches

On this Lamp a 14-inch Silk Shade could be used to advantage. See our fu... line at back of Catalogue.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

MINING CARS.

Fig. 1009.

STANDARD HOCKING VALLEY PATTERN.

THESE Cars are made of the best materials, are thorough in construction, and combine the latest improvements in this class of cars. They are provided with an improved brake.

This brake has four blocks—one for each wheel—all operated by one lever, so that when the brake is applied each wheel is retarded independent of the other, and all are checked alike, and the car is not twisted and wrenched, which causes them soon to give out.

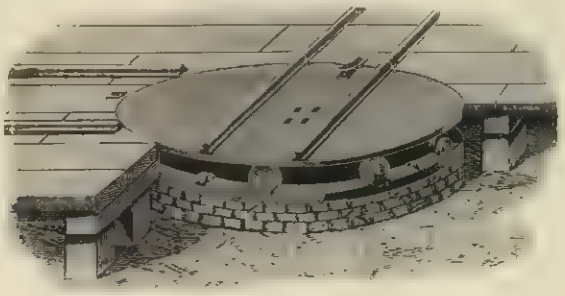
This brake does not permit one side of the car to travel faster than the other, and thus cause a tendency to get off the track, as is the case with the common brake on one side of the car.

The Stalter Patent Sleeve and Self-Oiling Car Wheel, which is used on these cars, has decided advantages over any other wheel in use—it prevents the wearing out of the axles, is self-lubricating.

SPECIFICATIONS.

Gauge of Track	42 inches.	Length of Car	7 feet
Wheels	16 "	Capacity	4,500 pounds.
Axles' Square	2 "	Height of Inside of Bed	30 inches.

Fig. 1010.



TURN-TABLES.

The above Turn-table is a strong and convenient appliance which can be turned with loaded car by one man. The disc plate is cast steel, has a center pivot bearing, and is supported at the outer edge by eight wheels. It is provided with locks and stops. The top can be separated from the bottom by simply lifting it from position. No. 1, weight, 350 lbs.; diam., 4 ft.; price, $35.00. No. 2, weight, 400 lbs.; diam., 4 ft. 8 in.; price, $37.50.

QUEEN CITY SUPPLY CO. CINCINNATI, O.

POSTAGE PAID Prepaid

SCRAPERS.

STEEL DRAG SCRAPERS.

Fig. 1011.

Columbus Double Bottom Scraper.

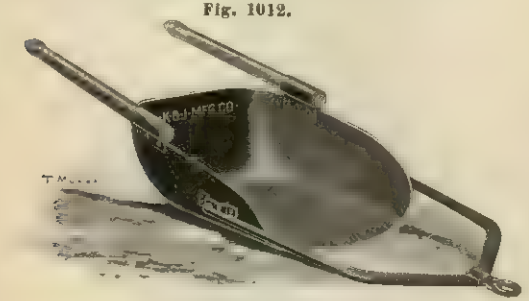
To meet the demand of those who prefer to use a Drag Scraper with a double bottom, we offer our well known "Columbus" Solid Steel Drag Scraper, with an All-Steel Extra Plate, 18x21 inches, very hard steel, riveted to the bottom and curved up the back of Scraper a short distance, as shown in illustration.

The extra bottom is fastened with countersunk-head rivets, with holes to match, and will hold as long as any of the plate is left.

All Scrapers and Extra Bottom Plates are punched by the same pattern, so that extra plates can be furnished, together with the necessary rivets, and easily and quickly put on Scraper, in place of old ones, by any person who can handle a hammer

Columbus all Steel Double Bottom Scraper each...
Extra Bottom Plates "

Fig. 1012.



"Columbus" Solid Steel.

No. 1. Carries 7 ft. of earth. Used for long haul or down grade. Size of Bowl—top of back to cutting edge, 33½ inches; width, 32 in.; depth, 11½ in. Weight, 110 lbs. Price.....

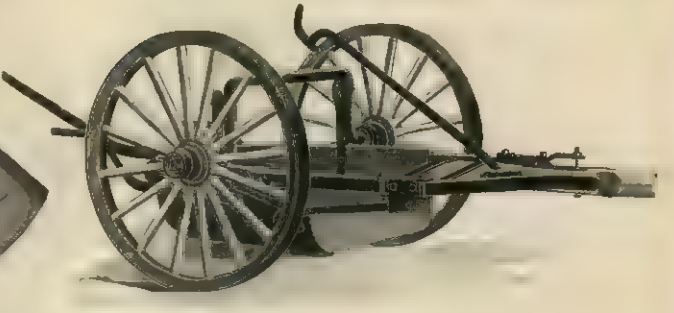
No. 2. Carries 5 ft. of earth. For ordinary grading, farm, road or township work. Size of Bowl—top of back to cutting edge, 31½ in.; width, 29 in.; depth, 11½ in. Weight, 100 lbs. Price, $.....

No. 3. Carries 3 ft. of earth. Intended for work on narrow ditch, with one horse. Size of Bowl—top of back to cutting edge, 28 in.; width, 29 in.; depth, 11½ in. Weight, 90 lbs. Price, $.....

Runners for each of above sizes, extra .

We ship always without runners, unless otherwise directed.

WHEEL SCRAPERS. Fig. 1013.



Wrought Steel Pressed Bowl.

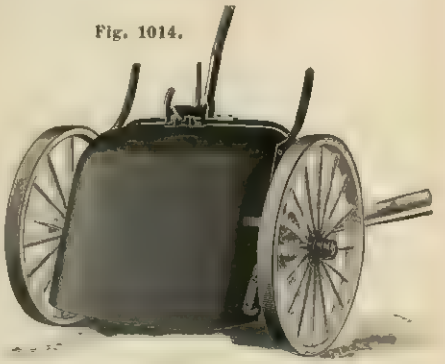
IN CARRYING POSITION.

The Bowl is stamped from one solid plate of wrought steel, three-sixteenths of an inch thick, without joint, seam or rivet. The bottoms are oil tempered.

The largest size Scraper, capacity 17 cubic feet, is easily operated by one man, and is also much easier on the team in filling, owing to the rounded shape of the Bowl. There is no strain on horse's neck, as in other Scrapers.

Wheels are "Sarven Patent" wood wheel, of great strength, with broad tires to prevent their cutting in where the soil is loose

Fig. 1014.



ON THE ROAD.

Fills in any soil where drag scraper will work, without loss of any part of load, and can be used on the highest embankment.

Our improved Lock Hook, with which all these Scrapers are supplied, makes it impossible for the Scraper to dump while filling, and regulates the "cut" to an even depth.

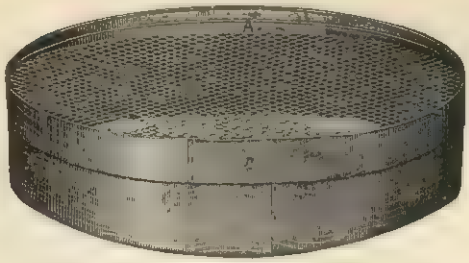
No. 2. Capacity 18 cubic feet; "Sarven Patent" wood wheels, 40 in. diameter, and tire, 3½x¼ in.; weight, complete, 595 lbs. Price, $

No. 3. Capacity 17 cubic feet; "Sarven Patent" wood wheels, 46 in. diameter, and tire, 3½x¼ in ; weight, complete, 705 lbs. Price, $

No. 3 has Snatch-Rod for extra team, when filling.

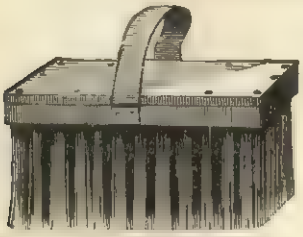
Whiffletrees and Neck Yokes not furnished, unless ordered and are charged for extra.

MOLDERS' AND COAL MINERS' RIDDLES.



Molders' Riddles, iron wire, per dozen	$7 00	Coal Miners' Riddles, per dozen	10 00
" steel wire, "	9 00	Coal Miners' Riddles, extra heavy, per dozen	12 00
" brass wire, "	12 00		

FOUR-ROW FOUNDRY BRUSHES.



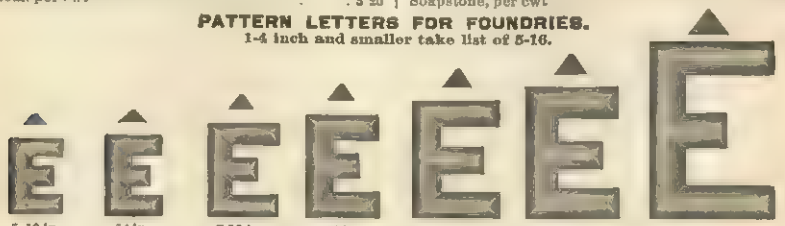
Length Wire, inches		1	2	3	4	5
With Handle	per dozen,	$6 00	6 50	7 00	7 50	8 00
Without Handle	per dozen,	5 50	6 00	6 50	7 00	8 00

FOUNDRY FACINGS.

Sea Coal, per barrel, about 240 lbs	$2 00	Rhode Island Mineral, per cwt.	$2 00
Charcoal, per cwt	3 25	Soapstone, per cwt	2 50

PATTERN LETTERS FOR FOUNDRIES.

1-4 inch and smaller take list of 5-16.



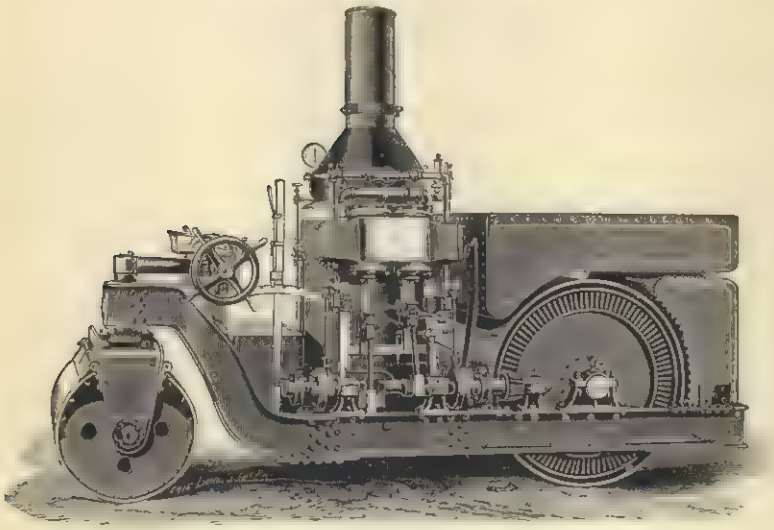
5-16 in.	⅜ in.	7-16 in.	½ in.	9-16 in.	⅝ in.	¾ in.
2 cts.	2½ cts.	2½ cts.	2½ cts.	3½ cts.	3 cts.	3½ cts.

DIXON'S GRAPHITE CRUCIBLES.

For fifty years these Crucibles have been regarded as the standard for quality. They are now the recognized standard in Europe, and all of the Plumbago or Graphite (Black Lead) Crucibles made in the world, with but one exception, are made by the Dixon process.

Nos.	Height Outside.	Diameter at the Top Outside.	Diameter at the Bilge Outside.	Diameter at the Bottom Outside.	Weight of the Crucible	Capacity of the Crucible by Weight of Water.	Price.	Nos.	Height Outside.	Diameter at the Top Outside.	Diameter at the Bilge Outside.	Diameter at the Bottom Outside.	Weight of the Crucible.	Capacity of the Crucible by Weight of Water.	Price.
	Inch.	Inch.	Inch.	Inch.	Lbs. Oz.	Lbs. Oz.	Cts.		Inch.	Inch.	Inch.	Inch.	Lbs. Oz.	Lbs. Oz.	
1	3⅛	2¾	2⅝	1⅝	9	4¼	30	18	9¾	7⅝	7⅜	5⅜	10 4	7 4	7 cts. per No.
2	3⅝	3⅛	3	2⅜	12	6½	36	20	9¾	7⅞	8¼	6	12 8	8 12	
3	4⅛	3⅝	3⅜	2⅝	1 8	11	42	25	10⅛	8	8⅝	6⅝	14 4	10 4	
4	5	4	4 3-16	3	1 13	1 4	48	30	11	8¾	9	6⅝	15 12	12 4	
5	5⅛	4⅛	4⅜	3⅛	2 4	1 4	54	40	12⅛	9 5-16	10⅛	7⅜	22	18	
6	5⅜	4⅜	4⅝	3⅜	2 12	1 12	60	45	13	9⅝	10⅜	7⅞	25	20	
7	6⅜	4⅞	5	3⅝	3 8	2 8	66	60	13¾	10⅜	11⅛	8	28 8	24	
8	6⅜	5	5 1-16	3⅝	3 8	2 8	70	80	15	10⅞	12	8⅜	37 8	32	
10	7⅜	5 7-16	5⅜	4⅛	4 12	3 8	80	100	16	11⅝	12⅞	9	43	33 4	
12	8	6	6⅛	4⅜	6 8	4 8	90	150	18	12⅞	14⅛	10⅛	59	51 8	
14	8⅜	6⅝	7 3-16	5⅛	8 8	5 4	7 per	200	19⅛	14⅛	15⅜	10⅝	73 8	69 8	
16	9	7	7⅛	5⅝	9 4	6 4	No	300	21	15⅛	17	11⅝	103 8	80 8	

MOUND CITY STEAM ROLLER.



This cut illustrates an improved 10-ton Steam Road Roller, especially adapted to asphalt and brick pavements. It is constructed principally of steel, the frame is of 10-inch steel channel beams, with goose necks and cross beams securely riveted. Length over all 15 feet 6 inches.

Front rolls are made of steel, in two sections, diameter 32 x 23 inches each, with steel rims $\frac{7}{8}$ inch thick.

The main roller is 52 x 46 inches wide, constructed of $\frac{7}{8}$ inch steel plate, with $\frac{7}{8}$ flange steel heads securely riveted to rim, and driven by cast steel pinion and segments.

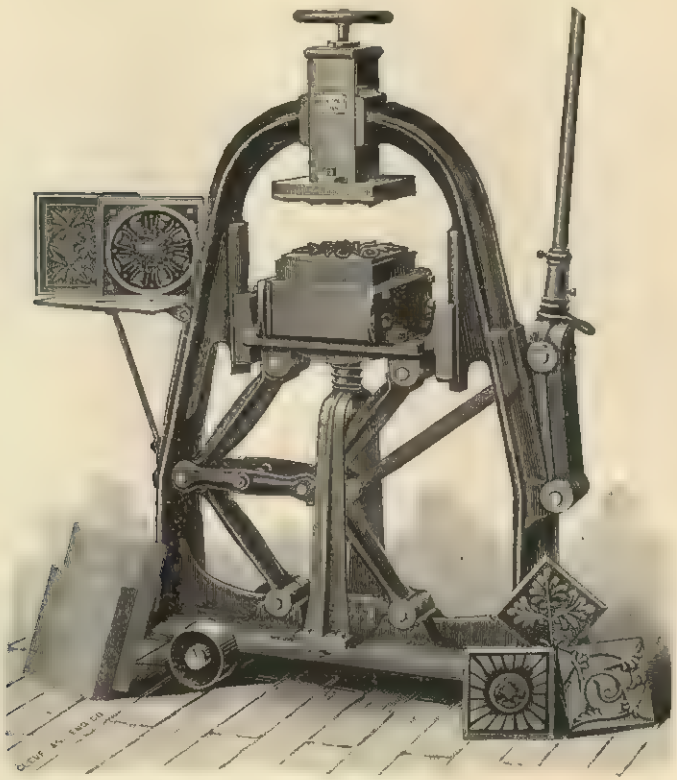
The Engines are 7 x 7 inches, and connected direct to crank-shaft, which is of forged steel.

The Boiler is of steel 33 x 60 inches high, and contains 125 1½-inch tubes.

Capacity of Water Tank.....	160 gals.
Roller without Weight	14,000 lbs.
Roller Weighted..	20,000 lbs.

RAYMOND'S PERFECTION REPRESS.

These are simple and powerful machines for re-pressing red and fire brick, or making ornamental and modeled designs, terra cotta, etc. Its simplicity, ease of operating and handling, great power and superior construction, commend it to those in want of the most improved and modern brick-making machinery. From 3,000 to 5,000 front faces can be made upon it per day. Its whole action is derived from a short, easy, but powerful movement of one lever, whose downward motion compresses the brick, the return motion releasing it from the die. The same lever serves as a handle for propelling the press. Various dies can be used upon it; but few moments are required in substituting one for another. By the turn of a wheel any pressure can be obtained, or it can be adjusted to press any thickness brick. For both plain and ornamental work it has advantages over all other repress machines.

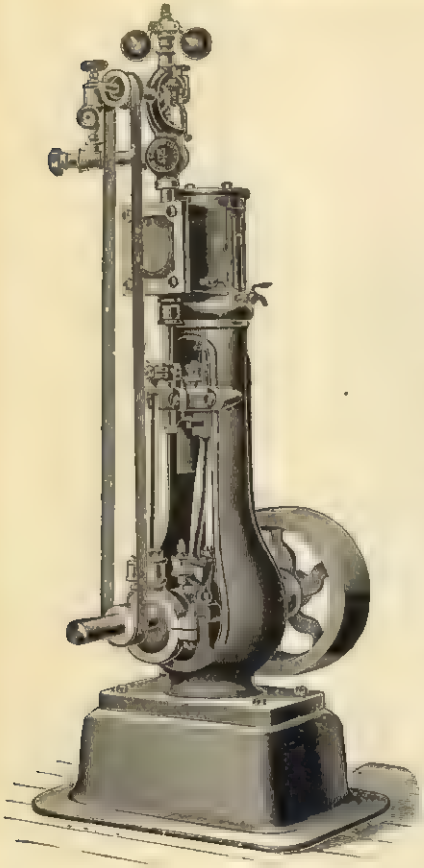


THE NO. 1 PRESS is used principally for red brick, and where a great number of these are required per day it is probably better than the heavier sizes, being lighter and easier handled. It will work a die as large as 6x8 inches. A number of shapes and molded borders can be made upon it by the aid of blocks and liners, the reverse shape of that required on the brick. These are worked upon the regular brick die. Our price includes one steel lined die of regular brick size, wrenches, oil cups and pallets. When not specified with the order we send the standard size die, 8¾x4¼-8x2 5-8. Weight of machine, 700 pounds; price, $150.00, net, at factory.

NO. 2 PERFECTION PRESS is more powerful than the No. 1, and is used for a greater variety of ornamental brick as well as for fire brick, paving blocks, door sills, etc. Split brick side and end arch brick, etc., can be moulded with a single die by a change of plungers. Takes dies six inches square. Price includes one steel lined die, 8¾x4¼-8x2 5-8 inches, wrenches, oil cups and pallet. Weight, 850 pounds; price, $165.00 net, on cars at factory.

NO. 3 PERFECTION PRESS takes dies as large as 12x16 inches. It has great power and range of capacity. Its manner of making ornamental work and terra cotta is as follows. The clay is first struck out by a machine or molded by hand, in order to insure proper tempering, to get the plastic mass in the block, and shape it for convenient handling. After allowing it to partly dry it is put under pressure in the press. With one motion of the lever the most elaborate and costly designs are produced, automatically removed from the die, and ready for the off-bearer. As many as 2,000 of these finished blocks have been made in ten hours on one press. The cuts illustrated plainly show in the engravings can be used upon each die in endless variety. They are made usually in brass, from designs submitted by the purchaser or furnished by us. By the great pressure employed, each block is given uniformity of size and figure, is thoroughly solidified, and its surface are parts pressed into prominence. No previous shaping of the brick in a machine is required, and all annoyance of loose plates in the bottom of the die is avoided. The work in progress is always within full view of the operator, and need not be removed from the press until perfect in shape. We furnish with this press one steel lined die 8¾x4¼-8x2 5-8, wrenches, oil cups and pallets. Weight of machine, 1,500 pounds, price, $250 00.

MURRAY'S PLAIN VERTICAL ENGINE.



This is a very fine engine, strong and heavy, built for wear and use. The column and steam cylinder are cast in one piece, and it is impossible for the working parts to get out of line. The piston, connecting rod and valve rod are of steel. Cross-head shoes are of brass, and the boxes lined with best babbitt metal.

A lubricator on the steam pipe oils the governor, engine valve, and inside of steam cylinder. Oil cups on eccentric strap and bearings supply further lubrication.

Prices include governor, lubricator, glass oil cups and drip cocks, as shown in the cut.

These engines can be driven at much higher rates of speed than given in the table. Increase of speed gives increase of power.

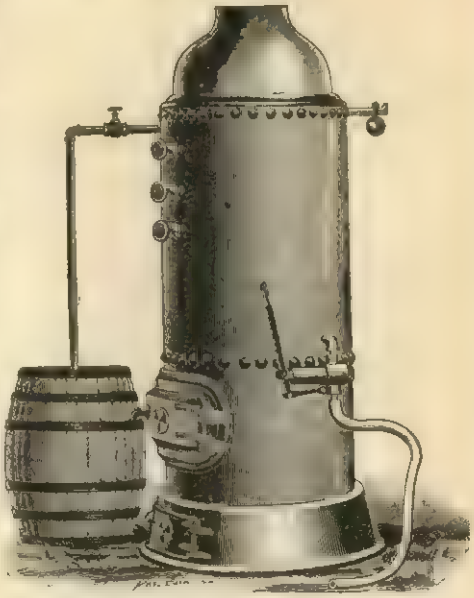
Number.	CYLINDER.		Horse Power	Revolutions per Minute.	BAND WHEEL.		Weight.	Price.
	Diameter	Stroke			Diameter.	Face.		
1	2½"	× 4"	1½	300	14"	× 3"	500	$100 00
2	3½"	× 4"	2	300	14"	× 5"	585	105 00
3	3½"	× 5"	3	300	14"	× 5"	675	115 00
4	4"	× 6"	4	250	20"	× 4½"	780	125 00
5	5"	× 6"	5	200	20"	× 5½"	850	140 00
6	6"	× 6"	6	175	20"	× 6½"	900	155 00
8	6"	× 8"	8	165	30"	× 7½"	1275	170 00
10	7"	× 8"	10	150	30"	× 8½"	1850	190 00
12	8"	× 8"	12	145	36"	× 10½"	2100	225 00
15	8"	× 10"	15	140	36"	× 12½"	2550	250 00
18	9"	× 10"	18	135	40"	× 12½"	2800	275 00

EUREKA BOILER AND STEAM FEED COOKER.

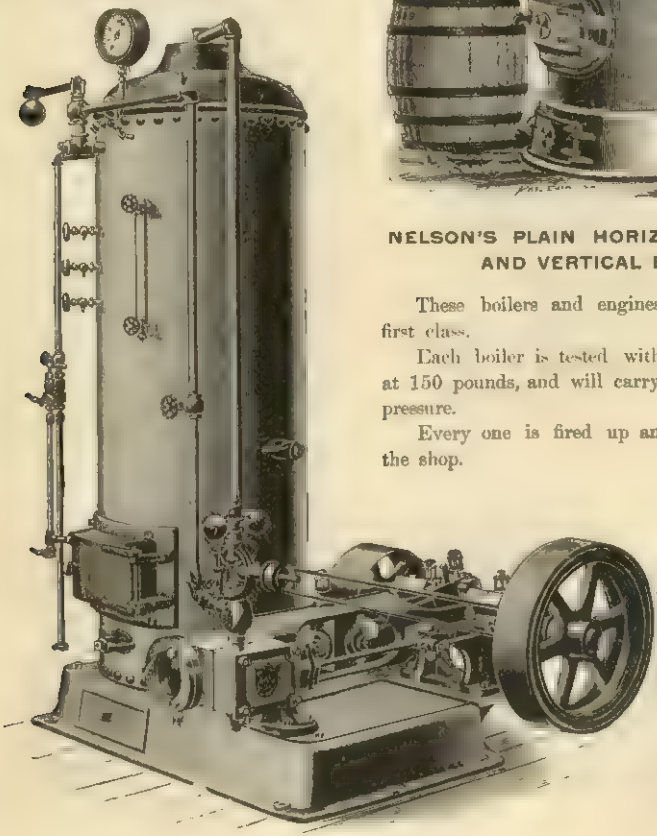
This is a reliable farm boiler for cooking feed, heating water, etc., made of boiler steel, with regular lap-welded boiler flues, well riveted and calked, capable of standing a hydrostatic pressure of 150 pounds to the square inch, and safe for 90 pounds working pressure.

No.	Diameter.	Height.	No. of 2" Flues.	Total Height.	Weight.	Price.
1	19"	40"	9	54"	325 lbs	$40 00
2	19"	44"	13	58"	370 lbs	45 00

The trimmings include two gauge cocks, blow-off cock, pump for supplying the boiler with water, safety valve, 2 feet 6 inch suction hose, 3 feet steam pipe, with valve to convey steam to barrel or vat, for cooking feed or boiling water.



Plain Horizontal Engine and Vertical Boiler.



NELSON'S PLAIN HORIZONTAL ENGINES AND VERTICAL BOILERS.

These boilers and engines are in all respects first class.

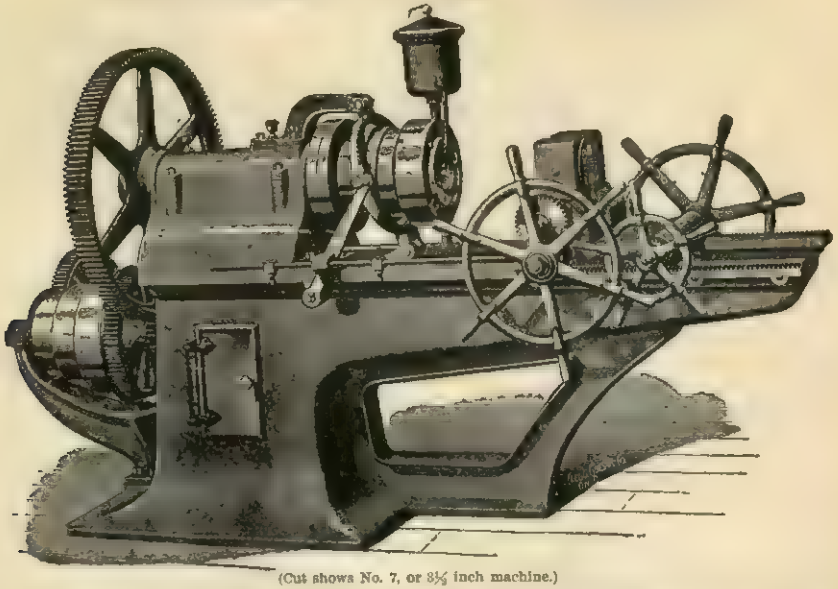
Each boiler is tested with cold-water pressure at 150 pounds, and will carry 120 pounds working pressure.

Every one is fired up and run before leaving the shop.

These engines are the strongest and heaviest of their class, and may be safely run at a high speed.

For prices see page 22. Same as Vertical Engines and Boilers.

NATIONAL SINGLE BOLT CUTTERS AND NUT TAPPERS.



(Cut shows No. 7, or 3½ inch machine.)

No. 6; capacity to 3 inch; weight, 3,600 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 3 inch, $825.00.

No. 7; capacity to 3½ inch; weight, 4,200 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 3½ inch, $925.00.

No. 8; capacity to 4 inch, weight, 4,400 pounds. Price, with countershaft, pump, automatic and hand opening, tap chuck, nut taps, and case dies to 4 inch, $1,050.00.

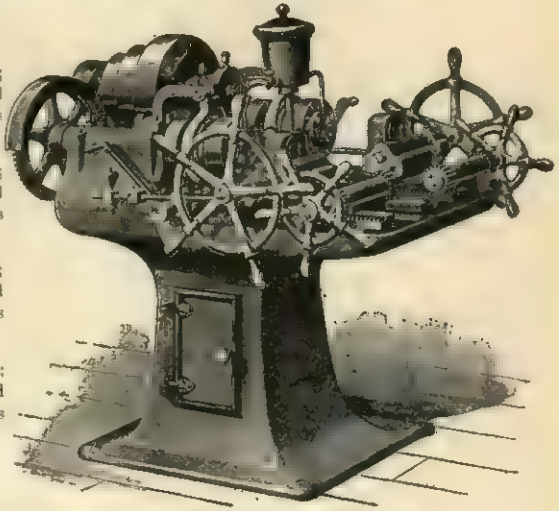
NATIONAL DOUBLE BOLT CUTTERS AND NUT TAPPERS.

1 INCH DOUBLE; weight, 2,200 pounds; with countershaft, pump, automatic and hand opening, Tap chuck, and Case dies to 1 inch, $540.00.

1½ INCH DOUBLE; weight, 2,500 pounds; with countershaft, pump, automatic and hand opening, Tap chuck, and Case dies to 1½ inch, $620.00.

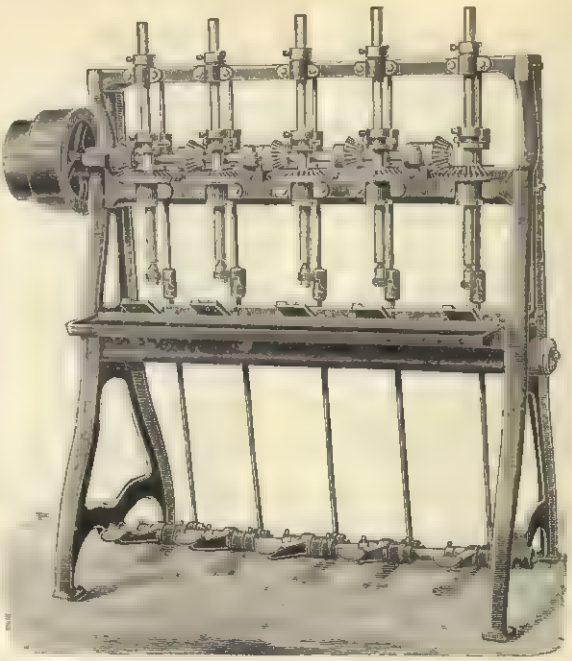
2 INCH DOUBLE; weight, 4,200 pounds; with countershaft, pump, automatic and hand opening, Tap chuck, and Case dies to 2 inch, $825.00.

2½ INCH DOUBLE; weight, 4,500 pounds; with countershaft, pump, automatic and hand opening, Tap chuck, and Case dies to 2½ inch, $875.00.



(Cut shows 1-inch machine.)

NATIONAL SKEW GEAR NUT TAPPER.



The skew gear tapper, as shown in cut, was originated to meet the demand for a nut tapper combining the good qualities of the belt tapper, without the inconvenience and expense attached to same, in using belts which require tightening up and often renewing.

The primary object of "skew gear" is to enable the driving shaft to be placed directly behind the spindles holding the taps and between the bearings of same.

This style of tapper is thoroughly self-contained, the treadles being supported on the frame, and is furnished with the very latest improvements, such as side frames in one piece; deep pan; end of pan arranged for drawing off water and oil, when a door is opened and chips drawn out; springs to adjust weight of spindles to size of taps; also, in the four and five spindle machines; a feather in spindle, to allow of any one spindle being stopped independent of the others.

This nut tapper is manufactured with four, five and six spindles, as illustrated.

Supplied with "plain," "patent relieving" or "spring" sockets.

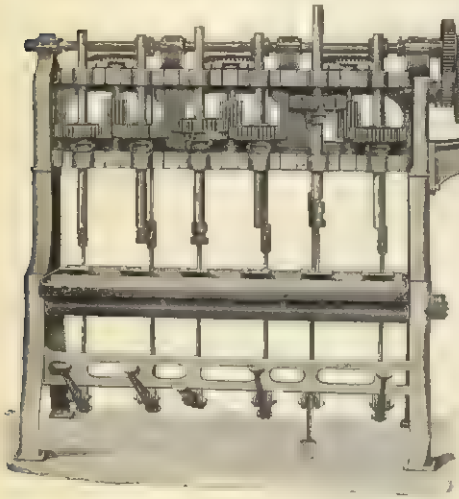
No. 1, 4-spindle, taps to ½ inch; weight, 1,200 pounds. Price, with countershaft and four sockets, $200.00.

No. 2, 5-spindle, taps to ¾ inch; weight 1,350 pounds. Price, with countershaft and five sockets, $225.00.

No. 3, 4-spindle, taps to 1 inch or 1¼ inch on two spindles; weight, 2,000 pounds. Price, with countershaft and four sockets, $350.00.

No. 4, 6-spindle, taps to 1 inch or 1¼ inch on two spindles; weight, 2,800 pounds. Price, with countershaft and six sockets, $400.00.

NATIONAL BACK GEARED NUT TAPPER.



This style of nut tapper is acknowledged by the bolt trade to be the most complete and perfect tapper in the market. The long pinion does away with the feather driving motion, and the power is applied between the bearings on the driven spindles. Any one of the spindles can be stopped independent of the others by treading same out of gear. This tapper can be operated in or out of back gear, giving six changes of speed, and we manufacture it with four and six spindles. The treadles of this machine are supported on the frame, and it is thoroughly self-contained. It also has deep pan, the ends of which are arranged for drawing off water and oil, when a door is opened and chips drawn out.

Furnished with "plain," "patent relieving" or "spring" sockets.

No. 1, 4-spindle, taps to 1¼ inch, weight, 2,800 pounds. Price, with countershaft and four sockets $500 00

No. 2, 6-spindle, taps to 1¼ inch; weight, 3,500 pounds. Price, with countershaft and six sockets 600 00

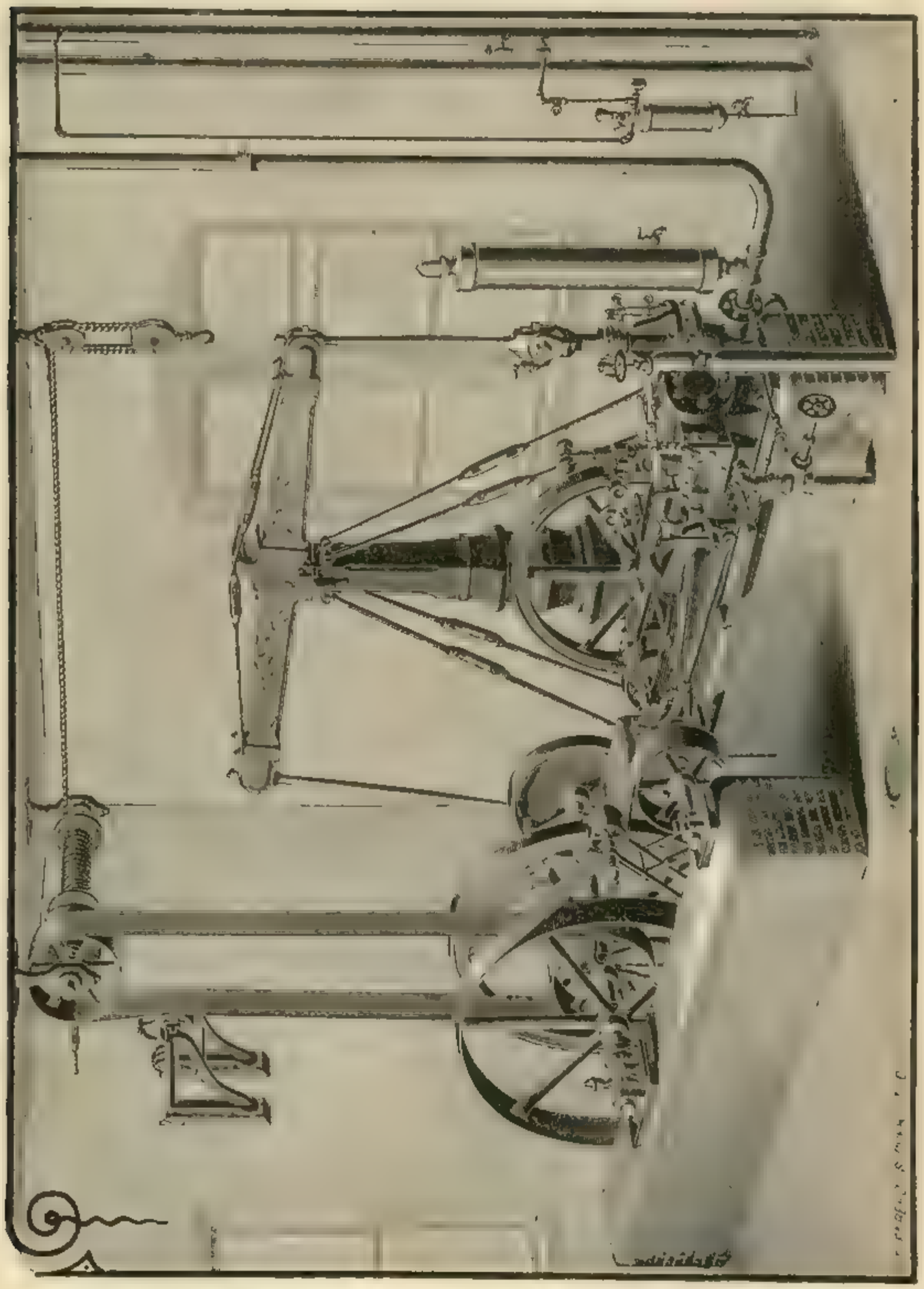
No. 3, 4-spindle (extra heavy), taps to 2 inch; weight, 3,000 pounds. Price, with countershaft and four sockets 550 00

No. 4, 6-spindle (extra heavy), taps to 2 inch; weight, 3,700 pounds. Price, with countershaft and six sockets 650 00

Write for Catalogue.

NELSON'S ARTESIAN PUMPING ENGINE.

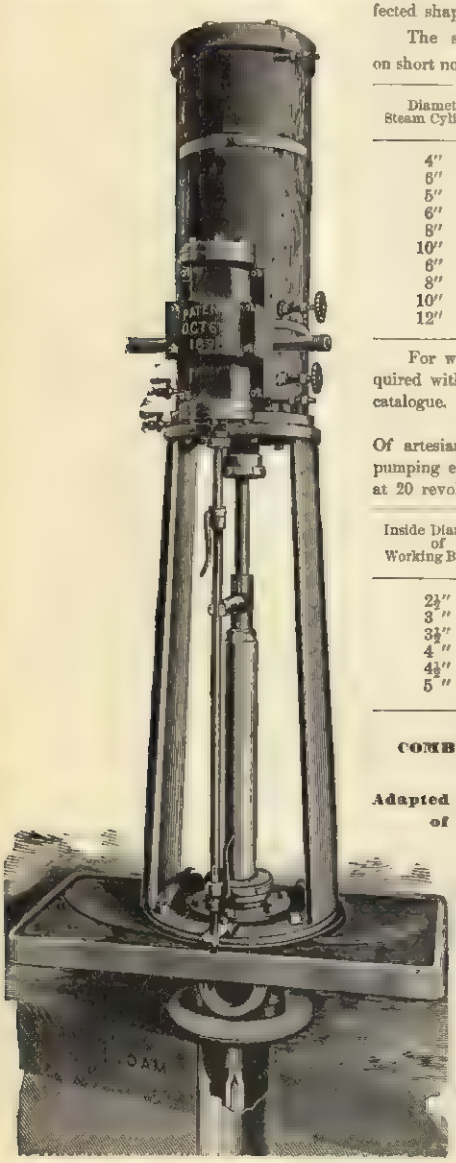
Adapted to Wells from 300 to 3000 Feet in Depth.



This is the most efficient and economical form of deep-well pump ever put upon the market. It is in successful use in the largest breweries and public institutions of this and other cities, pumping from 300 to 1600 feet in depth, where in some cases other pumps have failed, and is doing efficient service at various municipal water works, for which it is peculiarly adapted. Address us for information and prices.

DIRECT ACTING ARTESIAN PUMPING ENGINES.

The cut annexed shows a type of Vertical Pumping Engine especially made for artesian or deep wells, where the water must be raised from depths of fifty to two hundred feet. This form of deep-well pump has been sold by various makers for many years, but the one we illustrate has been greatly improved, and in its present perfected shape is regarded as the best in the market.



The sizes commonly made and which can be furnished on short notice are as follows:

Diameter Steam Cylinder.	Length of Stroke.	Shipping Weight.	Price.
4″	8″	400 lbs	$ 88 00
6″	14″	800 lbs	160 00
5″	24″	800 lbs	160 00
6″	24″	900 lbs	175 00
8″	24″	900 lbs	215 00
10″	24″	1,600 lbs	265 00
6″	36″	975 lbs	215 00
8″	36″	1,525 lbs	265 00
10″	36″	1,775 lbs	305 00
12″	36″	2,400 lbs	335 00

For working barrels, piping, pump rod, strainers, etc., required with these engines, see respective lists elsewhere in this catalogue.

Nominal Capacities

Of artesian cylinders or working barrels adapted to above pumping engines, the estimates being based on 36-inch stroke at 20 revolutions per minute.

Inside Diameter of Working Barrel.	Number of Gallons in 24 Hours.	Inside Diameter of Working Barrel.	Number of Gallons in 24 Hours.
2½″	13,536.00	6″	106,596.00
3″	18,340.06	7″	148,910.40
3½″	26,380.80	8″	197,216.00
4″	34,732.80	9″	254,707.20
4½″	46,972.80	10″	318,124.80
5″	59,443.20		

COMBINED AIR CHAMBER AND CHECK VALVE.

Adapted to the Discharge Connection of Our Artesian Pumps.

AIR CHAMBERS ONLY.

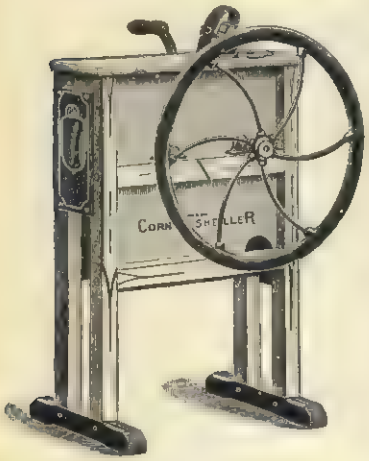
Number	Diameter.	Height.	Price.
1	18″	8½″	$ 7 50
2	24″	11″	12 00
3	36″	12″	16 50

CHECK VALVES.

Size	2	2½	3	3½	4
Price	$11.00	11.00	14.00	14.00	18.50

NELSON'S HAND AND POWER SHELLERS.

ONE-HOLE SHELLER.
Furnished End or Side Delivery.

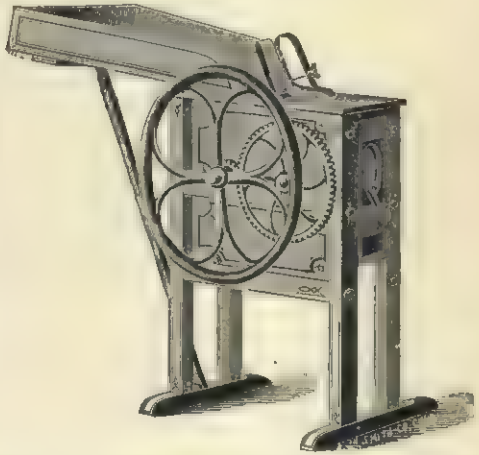


Cut shows side delivery. End delivery same price.

Price, without Fan.....$10 00
With Fan. 11 00

Feed Table, extra, $0.75 ; Weight, 125 pounds.

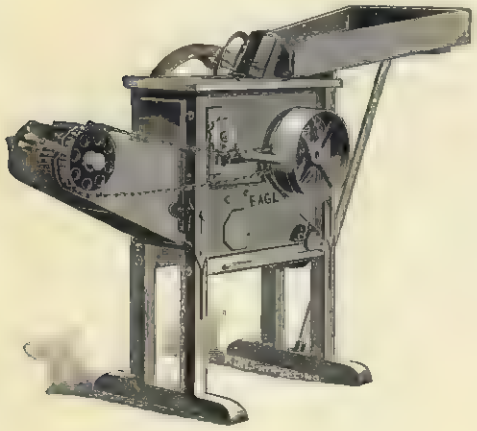
TWO-HOLE SHELLER—STYLE A.
Adapted to Both Hand and Power.



Furnished with crank, pulley, feed table and fan Wrought shafts, hard wood frame, tastefully painted and varnished. Speed of fly wheel about 350 revolutions per minute. Capacity, 300 to 400 bushels per day, with power. Weight, 200 pounds.

Price.....$22.00

TWO-HOLE SHELLER—STYLE B.
With Pulley, Crank, Fan and Cob Rake Attached.

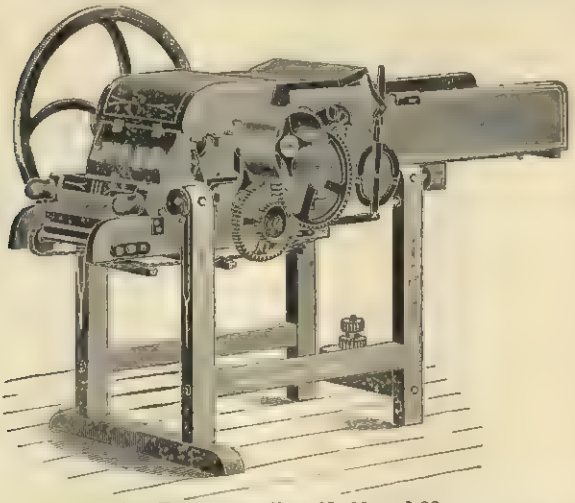


Furnished with crank, pulley, feed table, cob rake and fan. Wrought shafts, hard wood frame, tastefully painted and varnished. Speed of fly wheel about 350 revolutions per minute. Capacity, 350 to 450 bushels per day by power. Sheller has a wire cob rake run by chain belt, making its operation rapid and certain, overcoming the objectionable feature to cob carriers run by smooth belts; at the same time carries off silk and small husks and by means of the fan blows out all chaff and dust, making a clean, marketable corn. Weight, 250 lbs.

Price, as above described ...$28 00
Extra for Sacking Elevator 14 00
Weight, 75 pounds.
Extra for Wagon Elevator 20 00
Weight, 100 pounds.

NELSON'S POWER FODDER AND ENSILAGE CUTTERS.

With Controllable Gear and Safety Fly Wheel.



Cut Represents Nos. 13, 15 and 20.

Our power cutters have two very strong steel ad-j knives bolted on heavy recessed arms. Better results are obtained with two knives than with three or four. The feeding device has a range from $\frac{1}{2}$ to $\frac{15}{16}$ inches of cut, can be stopped or started instantly, or regulated while the machine is in motion, and will feed irregular quantities as well as fodder of uniform size.

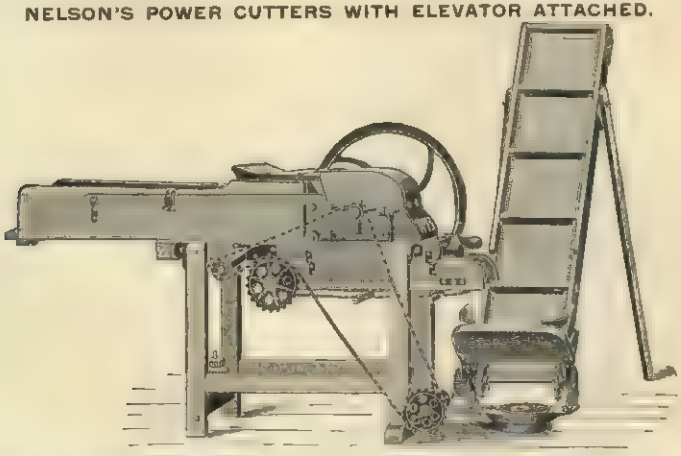
The safety device allows the fly wheel to continue its revolutions loose on the shaft when the knives encounter any obstruction that would endanger them, but the fly wheel cannot "run off" as on some other cutters. It is the safest machine in the market to operate.

No. 13 has two 13-inch knives. Speed required, 350 to 500 revolutions per minute; capacity, 2 to 3 tons of green fodder per hour; weight 500 pounds. Price, $40.00.

No. 15 is similar in construction to No. 13. Has 15-inch knives; capacity 3 to 4 tons of green fodder per hour; speed, 350 to 500 revolutions per minute; weight, 600 pounds. Price, $50.00.

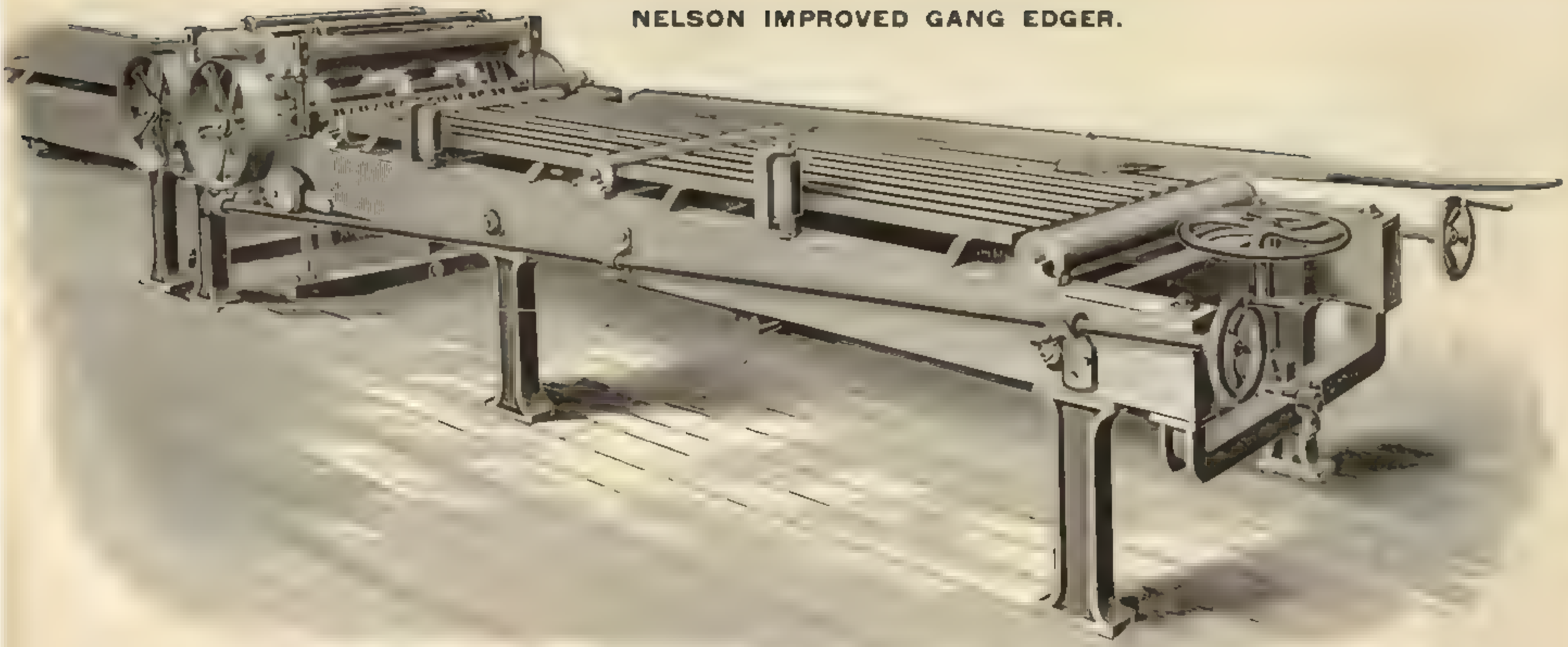
No. 20 has 20-inch knives and should make 400 to 500 revolutions per minute; capacity, 8 to 10 tons of green fodder per hour; weight, 700 pounds. Price, $75.00.

NELSON'S POWER CUTTERS WITH ELEVATOR ATTACHED.



The cut shows a good reliable carrier, which adds greatly to the value of power cutters, particularly when filling silos or where much cutting is done on dry fodder. It is very strong and durable. Malleable link chain is used for belt driven by sprocket wheels, avoiding all chance for the machine to clog. It can be run straight ahead, or it will revolve either to right or left to deliver where required. This carrier fits either Nos. 13, 15 or 20 cutters. Price for 12 feet length or less, $2.50 per foot; for additional length, $1.50 per foot.

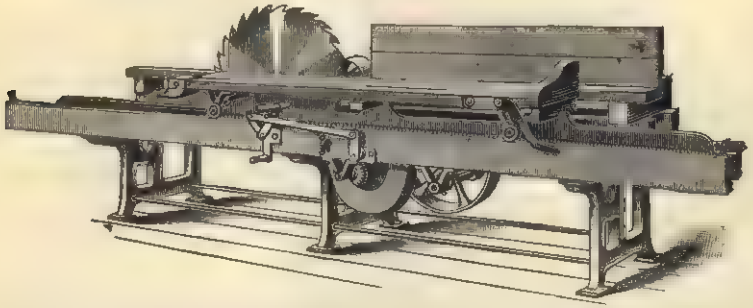
NELSON IMPROVED GANG EDGER.



This newly designed edger possesses features of advantage offered by none others except the most expensive match mes, and few of these equal it in excellent construction and cost of management. Its capacity is practically limited only by the efforts of the operator to keep up its product. It is adapted to the wants of the largest lumber manufacturers, but its low price will place it within the reach of the humblest mill men. Its features protect against the most destructive and costly breakages ever put on the market, and the most economical to buy for all uses. It has the most powerful feed of any edger now made, and carries the heaviest or lightest stuff through with a positive accuracy, making a perfectly true edge. The rollers are of cast iron, turned smooth, with corrugated and rocking surfaces. With their long bearings they will run 2,500 pounds feed by means of a new and simple raising device, and lowered without operator leaving his position at the end of the machine. The saws are steel, set in heavy bored posts, and by an easy movement of the hand wheel at the front end, connecting with a screw movement, can be adjusted, dispensing with the usual hard working and troublesome rack and pinion, and avoiding any projecting rack or other obstruction to the convenient handling of the machine at that point. A setting scale, with large raised figures of color contrasting with the background, is placed in full view of the attendant. The feed pulleys are of larger diameter than usual, and use a wide belt, affording a direct arrangement where the power is transmitted through several idlers, as in other edgers. The grooved bottom feed rolls, front and back of the saws, are of hardened steel and powerfully driven, and the top rolls of cast iron, faced with steel, and by an easy movement of lowering the front roll, can be set straight and parallel or in any desired angle, with convenient and smooth working, and complete control to the ease and accurate feeding of material through the saws. Weight, 2,500 to 3,000 lbs.; floor space required, 6x12 feet; drive pulley 12x16 inches. Should run from 600 to 2,200, according to capacity required.

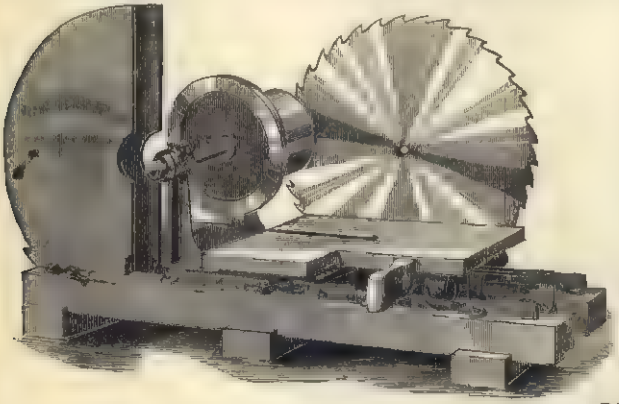
Price of No. 1 Edger, with double feed rolls, as shown in cut, three 16-inch solid tooth saws, two movable and one fixed $350 00
Same, with single feed rolls. 320 00
No. 2 Edger, with double feed rolls, four saws, three movable 450 00

FRICTION FEED, SELF-TRIP, BOLTING AND SLAT SAW.



This is a general utility Saw, for the Farm, Plantation or Mill. It is adapted to slitting bolts or small logs into Slats, Pickets, Boards, or other small dimension stuff. It has an iron frame and heavy steel arbor, and an iron track accurately planed, a smooth running car, with rack feed; an adjustable fence gauge, and will carry a saw up to 40 inches; has a powerful quick return friction-feed under the table and protected from the weather. It has a self trip, adjustable to cut any length, which keeps the car in motion and requires no attention of the operator, leaving him all his time to feed and take away the stuff. It is not a cheap, coarse-made machine, for rough work only, but is so well and nicely made as to recommend itself to the best manufacturers for preparing their stuffs. Shipping Weight, 1,200 pounds.

Price, with 6-foot car and 30 inch saw, hand trip	$130 00	Extra for 32-inch saw, in place of 30-inch	$ 2 00
Price, with 8-foot car and 30-inch saw, hand trip	140 00	Extra for 34-inch saw, in place of 30-inch	4 50
Extra for Automatic Trip	20 00	Extra for 36-inch saw, in place of 30-inch	7 50



IMPROVED KNEE BOLTING MACHINE.

This machine is designed exclusively to quarter or saw bolts into sections, and to remove saps and large knots.

Sapping with an axe wastes 30 per cent. by following the grain. Nothing is wasted with a Saw Bolt.

With split bolts, several clips have to be made before a perfect shingle is cut. First cut is a perfect shingle by using a Saw Bolter and several thousand Shingles more a day can be cut.

It occupies a space 7½ ft. by 4½ ft.; 16-inch driving pulley; 10 inch face; heavy balance wheel; 50 inch saw, speed 900; weight 900 lbs; solid forged steel saw arbor, boxes in a solid cast iron yoke; never gets out of line, nor heats

Price, with 50-inch saw $200 00

HAND FEED SHINGLE BOLTING MACHINE.

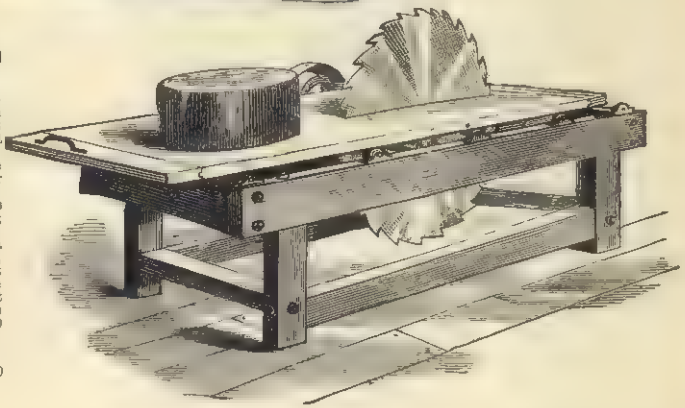
The cut sufficiently describes this well known machine. We make it throughout in the best manner.

It will bolt six to ten thousand feet of logs per day.

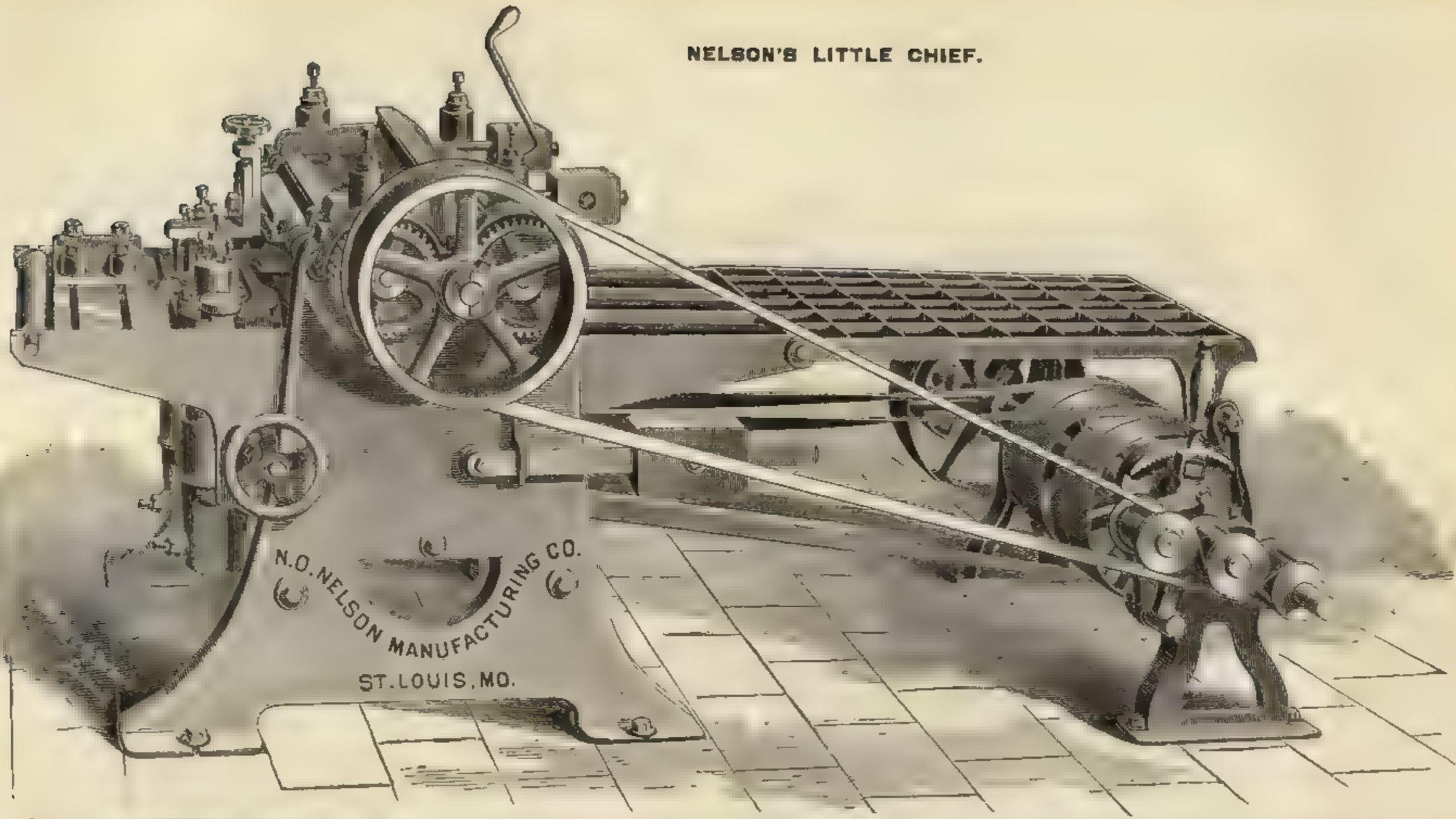
Size of pulley 16 inches diameter, 10 inch face; speed 500 to 600.

With the addition of a Rack and Pinion attached, operated by a crank (not shown in the cut), one man can easily bolt enough for 75,000 shingles per day. Weight, 1,200 lbs.

Price, with 48-inch saw $150 00



NELSON'S LITTLE CHIEF.



This is our new Single Surfacer and Matcher, combining the best features of mordern machines of its class with substantial improvements of our own design, making it the most complete and perfect machine of medium capacity now in the market. Its construction throughout is of the same class as that of our most expensive Planers, and its great strength and compactness enable it to run at a high speed. It has hammered steel cylinders, with long bearings, wrought iron rolls, gun metal matching heads, front and back pressure bars, and all facilities for quick and easy adjustment.

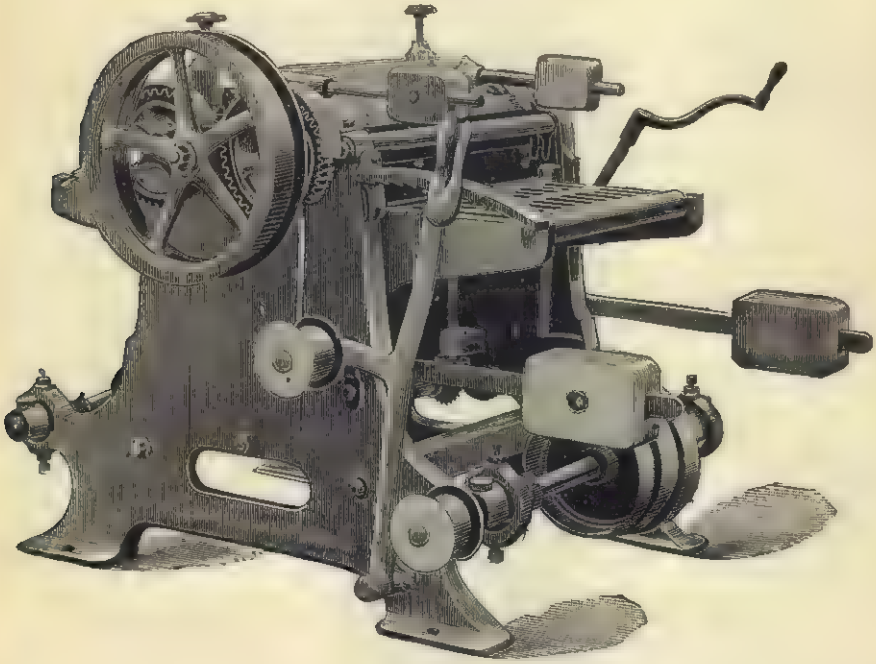
The Matcher Spindles are so arranged that they can be dropped down out of the way when the machine is wanted for surfacing only. The bed may be raised or lowered while the machine is in motion, and has a range of adjustment admitting material from ⅛ inch to 8 inches in thickness.

Tight and Loose Pulleys on countershaft are 10 inch diameter, 5 inch face, and should make 950 revolutions.

Weight, boxed for shipment, 2800 lbs. PRICE, to Plane 24 inches and match 12 inches, $350 00.

IMPROVED SINGLE SURFACER AND SMOOTHING PLANER.

Adapted to Hard or Soft Wood, Staves, Headings, etc., and General Mill Work.



This is a popular and useful machine in carriage shops, sash and blind factories, and all kinds of woodworking establishments. It is equally adapted to heavy and light work. It is very substantially made, and may be driven at great speed. It will surface hard or soft wood from ¼ to 6 inches thick, and 20 to 24 inches wide. The cutter-head is solid forged steel, with steel bolts for fastening knives The receiving pressure bar is an adjustable swinging bar, keeping the same relative distance from the knives at all points of cut, and is pivoted to swing clear of cutter-head, to sharpen or adjust the knives. The delivering pressure bar is easy of access for adjustment. The receiving rolls are weighted. The rolls in the bed are large, giving a strong feed, with three changes of speed by means of the cone pulleys. The feed is started and stopped by a swinging arm carrying the binder pulley. Cutter-head pulley, 4⅜ inches diameter, 5 inches face. Countershaft has tight and loose pulleys, 10 inches diameter, 5 inches face, and should make 900 revolutions per minute. Weight, with countershaft, 1,500 lbs.

20-inch, complete with Countershaft $180 00

24-inch, complete with Countershaft $200 00

Send for complete Catalogue of Wood-working Machinery.

Newel Post, Desk or Pulpit Lamps.

No. D

With Miller Fount.

NO.	DESCRIPTION	EACH
D177	Newel Post Lamp, as shown above, without Chimney, Globe or Ring. Figure finished in Satin Silver, the rest of Lamp in Gilt.	$13 90
D177	Same as above, but complete with Chimney, Etched Globe and Ring.	14 85

Height to Burner, 23 inches. Diameter of Base, 5¼ inches. Detachable Seamless Metal Fount.
Can be screwed to Newel Post or Desk by means of a detachable iron plate in the Base.

No. D 85.

With Miller Fount.

NO.	DESCRIPTION	EACH
D185	Newel Post Lamp, as shown above, no Chimney, Globe or Ring. Antique Brass Finish.	$ 9 25
D190	Same as above, but complete with Chimney, 5 in. Etched Globe and Ring.	10 20

Height to Burner, 19¼ inches. Diameter of Base 5¼ inches. Detachable Metal Fount.
Can be screwed to Newel Post or Desk by means of a detachable iron plate in the Base.

No. D84.

With Miller Fount.

NO.	DESCRIPTION.	EACH.
D383	Newel Post Lamp, as shown above, without Chimney, Globe or Ring, Antique Brass Finish.	$16 65
D384	Same, but complete with Chimney, 5 inch Etched Globe and Ring.	17 60

Height to Burner, 25 inches. Diameter of Base, 5¼ inches. Detachable Seamless Metal Fount.
Can be screwed to Newel Post or Desk by means of a detachable iron plate in the Base.

Table Lamps.

"The Miller Lamp," the Steadiest, Whitest, Largest Light.

These Lamps are with No. 2 Burner, 65 Candle Power. Hold 3 Pints of Oil, Burn 9 Hours.

These Lamps Guaranteed to Give Satisfaction. They all take No 2 Rochester Chimney and Wick

Nos. D9067 and D9068

Juno

NO.	DESCRIPTION	DOZEN
D9067	Juno Lamp, and Tripod without Shade or Chimney, Polished Brass, as shown,	$21 30
D9068	Same, Nickel Plated	22 25
D9069	Same, complete with Chimney, Tripod and 10 inch White Dome Shade, Polished Brass,	26 05
D9070	Same as above, complete, Nickel Plated,	27 60

Height, 12 inches. For a modern priced Lamp it has no equal. It has the best and simplest device for rewicking. It cannot get out of order. No dirt pocket. Clean and odorless.

Nos. D9107 and D9108.

Miller

NO.	DESCRIPTION	DOZEN.
	The following are handsomely EMBOSSED, as shown above	
D9108	Miller Lamp, without Shade, Chimney or Tripod. Polished Brass, Embossed,	$28 70
D9110	Same, Nickel Plated.	31 50
D9107	Same, complete with Chimney, Tripod and 10 inch Dome Shade Polished Brass, Embossed, as shown,	36 10
D9108	Same as above, complete, Nickel Plated, Embossed,	39 35
	The following Lamps are same as above, but PLAIN Finish, NOT EMBOSSED.	
D9076	Miller Lamp, without Shade Chimney or Tripod, Polished Brass, Plain Finish	25 90
D9077	Same, Nickel Plated.	28 70
D9078	Same, complete with Chimney, Tripod and 10 inch Dome Shade, Polished Brass, Plain Finish.	33 35
D9079	Same as above, complete, Nickel Plated,	36 55

Height, 12 inches. The best Lamp made. Screw or plunge movement. Every Lamp complete with CHIMNEY LIFT and Oil, Improved. No dirt pocket. No odor. Can be rewicked in an instant.

Nos. D9224 and D9228.

Rochester

NO.	DESCRIPTION	DOZEN
	The following are handsomely EMBOSSED, as above.	
D9226	Rochester Lamp, without Shade, Chimney or Tripod, Polished Brass Embossed	$28 70
D9226	Same, Nickel Plated	31 50
D9223	Same, complete with Chimney, Tripod and Shade, Polished Brass, Embossed	36 10
D9225	Same as above, complete, Nickel Plated,	39 35
	The following are same as described above, but PLAIN Finish, NOT EMBOSSED	
D9065	Rochester Lamp, without Shade, Chimney or Tripod. Polished Brass, Plain Finish,	25 90
D9066	Same, Nickel Plated,	28 70
D9126	Same, complete with Chimney, Tripod and 10 inch Dome Shade, Polished Brass, Plain Finish,	33 35
D9107	Same as above, complete, Nickel Plated,	36 55

Height, 12 inches. The Rochester Lamp requires no recommendation. The merits of this Lamp are familiar to all.

Newel Post, Desk or Pulpit Lamps.

No. D

With Miller Fount.

NO.	DESCRIPTION	EACH
D177	Newel Post Lamp, as shown above, without Chimney, Globe or Ring. Figure finished in Satin Silver, the rest of Lamp in Gilt.	$13 90
D177	Same as above, but complete with Chimney, Etched Globe and Ring.	14 85

Height to Burner, 23 inches. Diameter of Base, 5¼ inches. Detachable Seamless Metal Fount.
Can be screwed to Newel Post or Desk by means of a detachable iron plate in the Base.

No. D 85.

With Miller Fount.

NO.	DESCRIPTION	EACH
D185	Newel Post Lamp, as shown above, no Chimney, Globe or Ring. Antique Brass Finish.	$ 9 25
D190	Same as above, but complete with Chimney, 5 in. Etched Globe and Ring.	10 20

Height to Burner, 19¼ inches. Diameter of Base 5¼ inches. Detachable Metal Fount.
Can be screwed to Newel Post or Desk by means of a detachable iron plate in the Base.

No. D84.

With Miller Fount.

NO.	DESCRIPTION.	EACH.
D383	Newel Post Lamp, as shown above, without Chimney, Globe or Ring, Antique Brass Finish.	$16 65
D384	Same, but complete with Chimney, 5 inch Etched Globe and Ring.	17 60

Height to Burner, 25 inches. Diameter of Base, 5¼ inches. Detachable Seamless Metal Fount.
Can be screwed to Newel Post or Desk by means of a detachable iron plate in the Base.

Table Lamps.

"The Miller Lamp," the Steadiest, Whitest, Largest Light.

These Lamps are with No. 2 Burner, 65 Candle Power. Hold 3 Pints of Oil, Burn 9 Hours.

These Lamps Guaranteed to Give Satisfaction. They all take No 2 Rochester Chimney and Wick

Nos. D9067 and D9068

Juno

NO.	DESCRIPTION	DOZEN
D9067	Juno Lamp, and Tripod without Shade or Chimney, Polished Brass, as shown,	$21 30
D9068	Same, Nickel Plated	22 25
D9069	Same, complete with Chimney, Tripod and 10 inch White Dome Shade, Polished Brass,	26 05
D9070	Same as above, complete, Nickel Plated,	27 60

Height, 12 inches. For a modern priced Lamp it has no equal. It has the best and simplest device for rewicking. It cannot get out of order. No dirt pocket. Clean and odorless.

Nos. D9107 and D9108.

Miller

NO.	DESCRIPTION	DOZEN.
	The following are handsomely EMBOSSED, as shown above	
D9108	Miller Lamp, without Shade, Chimney or Tripod. Polished Brass, Embossed,	$28 70
D9110	Same, Nickel Plated.	31 50
D9107	Same, complete with Chimney, Tripod and 10 inch Dome Shade Polished Brass, Embossed, as shown,	36 10
D9108	Same as above, complete, Nickel Plated, Embossed,	39 35
	The following Lamps are same as above, but PLAIN Finish, NOT EMBOSSED.	
D9076	Miller Lamp, without Shade Chimney or Tripod, Polished Brass, Plain Finish	25 90
D9077	Same, Nickel Plated.	28 70
D9078	Same, complete with Chimney, Tripod and 10 inch Dome Shade, Polished Brass, Plain Finish.	33 35
D9079	Same as above, complete, Nickel Plated,	36 55

Height, 12 inches. The best Lamp made. Screw or plunge movement. Every Lamp complete with CHIMNEY LIFT and Oil, Improved. No dirt pocket. No odor. Can be rewicked in an instant.

Nos. D9224 and D9228.

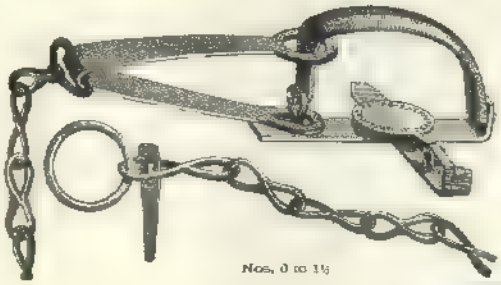
Rochester

NO.	DESCRIPTION	DOZEN
	The following are handsomely EMBOSSED, as above.	
D9226	Rochester Lamp, without Shade, Chimney or Tripod, Polished Brass Embossed	$28 70
D9226	Same, Nickel Plated	31 50
D9223	Same, complete with Chimney, Tripod and Shade, Polished Brass, Embossed	36 10
D9225	Same as above, complete, Nickel Plated,	39 35
	The following are same as described above, but PLAIN Finish, NOT EMBOSSED	
D9065	Rochester Lamp, without Shade, Chimney or Tripod. Polished Brass, Plain Finish,	25 90
D9066	Same, Nickel Plated,	28 70
D9126	Same, complete with Chimney, Tripod and 10 inch Dome Shade, Polished Brass, Plain Finish,	33 35
D9107	Same as above, complete, Nickel Plated,	36 55

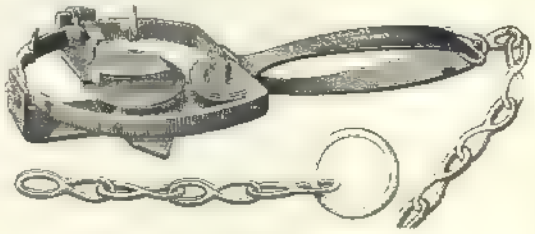
Height, 12 inches. The Rochester Lamp requires no recommendation. The merits of this Lamp are familiar to all.

Steel Traps.

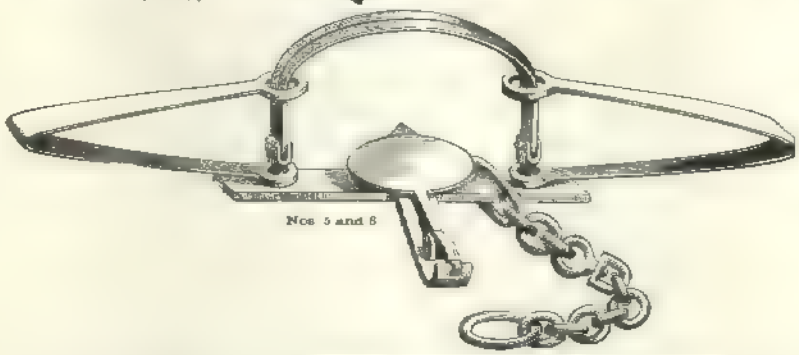
Newhouse, Oneida Community



Nos. 0 to 1½



No. 2½



Nos 5 and 6

NO.	SPREAD OF JAWS.	DESCRIPTION.	PER DOZEN.
0	3½ inches.	Rat Trap, Single Spring, with Chain,	$ 4 25
1	4 inches.	Muskrat Trap, Single Spring, with Chain,	5 00
1½	4⅞ inches.	Mink Trap, Single Spring, with Chain,	7 50
2½	4½ inches	Otter Trap Single Spring, with Teeth and Chain,	18 50
2	4⅞ inches.	Fox Trap. Double Spring with Chain,	10 50
3	5½ inches.	Otter Trap, Double Spring, with Chain,	14 00
4	6½ inches.	Beaver Trap, Double Spring, with Chain,	16 50
04	6½ inches.	Beaver Trap, Double Spring, with 6 foot Chain,	20 50
14	6½ inches.	Dear Trap, Double Spring, with Teeth and Chain,	18 50
5	11¼ inches.	Bear Trap. Double Spring, Weight 17 lbs., each Spring 2 lbs. 10 oz., with Chain,	140 00
6	16 inches.	Bear Trap, Double Spring, Weight 42 lbs., each Spring 6 lbs. 10 oz., with Chain,	280 00

A Swivel is attached to every Trap The Springs are warranted to stand under water.

Imitation Newhouse Steel Traps.

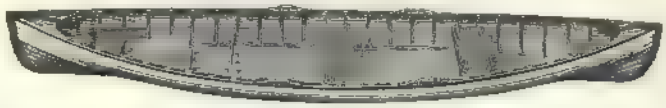
NO.	SPREAD OF JAWS.	DESCRIPTION.	PER DOZEN.
0	3½ inches.	Rat Trap, Single Spring, with Chain,	$4 25
1	4 inches.	Muskrat Trap, Single Spring, with Chain,	5 00
1½	4½ inches.	Mink Trap, Single Spring, with Chain,	7 50
2	4⅞ inches.	Fox Trap, Double Spring, with Chain,	10 50
3	5½ inches.	Otter Trap, Double Spring, with Chain,	14 00
4	6½ inches.	Beaver Trap, Double Spring, with Chain,	16 50

Clamps for Setting Bear Traps.

NO.	DESCRIPTION.	PER PAIR.
5	For Setting No. 5,	$1 75
6	For Setting Nos. 5 or 6,	2 60

Spring Lake Clinker Boats.

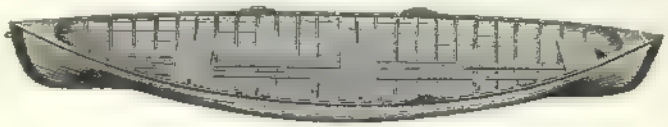
No. 8.—Duck Boat—Grade C.



DESCRIPTION.	EACH.
Length 14 feet; beam, 32 inches, depth at ends, 17 inches, depth midship, 10½ inches, number seats, 2; seating capacity, 2; weight, 80 lbs.,	$35 00
Length, 16 feet; beam, 36 inches; depth at ends, 20 inches; depth midship, 13 inches; number seats, 3; seating capacity, 3; weight, 110 lbs.	40 00

Oak keel, stems, ribs and gunwales. Planking pine. Seats fastened with iron knees on each seat, sassafras or ash breast hook. Painted inside and out, with ribs, seats, clamps, gunwales and breast hooks finished in natural color of wood. Malleable Iron rowlocks. One pair straight ash oars. Movable platform and bottom boards.

Fourteen-foot boat has one pair rowlocks. Sixteen-foot boat has two pair rowlocks, trim with one to three persons. Ten-foot punting oar, extra $2 00.



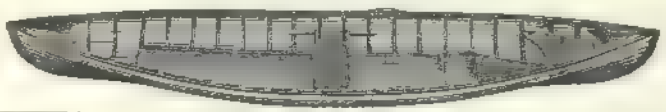
No. 4—15 Feet.

DESCRIPTION.	EACH.
Length, 15 feet; beam, 40 inches; depth at ends, 21 inches; depth midship, 13 inches; number seats, 4; seating capacity, 4; weight, 110 lbs.,	$30 00
Same as above, but Oil Finished throughout,	35 00

These Boats are [illegible] supplied in similar design [illegible] smoothing *warp*. Have on [illegible] excelled our most sanguine expectations in towing [illegible] or sail, [illegible] pleasure [illegible] [illegible] our market. They are [illegible] a hunting, fishing and family boat, being a great favorite [illegible], while [illegible] for [illegible] [illegible] or speed of [illegible].

Oak keel, stem, [illegible] ribs, [illegible] and deck. Pine [illegible] [illegible] Ash or oak breast hook. Planking pine, fastened with iron nails and screws. Painted throughout. Iron stem bands, [illegible] and malleable iron rowlocks.

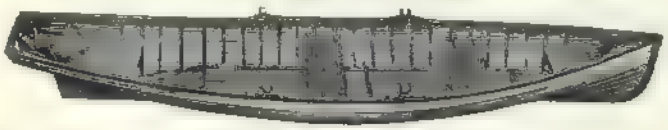
No. 4—13 Feet.



DESCRIPTION.	EACH.
Length, 13 feet; beam, 36 inches; depth at ends, 19 inches; depth midship, 12 inches; number seats, 3; seating capacity, 2, weight, 75 lbs.,	$25 00
Same as above, but Oil Finished throughout,	30 00

Oak keel, stem and ribs. Gunwales oak or ash. Pine seats, fastened with iron knees. Ash or oak breast hook. Planking pine, fastened with iron nails and screws. Painted throughout. Iron stem bands. Galvanized malleable iron rowlocks. One pair straight ash oars.

No. 5—Square Stern.



DESCRIPTION.	EACH.
Length 15 feet 8 inches; beam, 38 inches; height stem, 33 inches, height stern, 21 inches; depth midship 12 inches, number seats, 4, seating capacity, 4; weight, 120 lbs.,	$40 00
Length 15 feet 8 inches beam, 42 inches, height stem, 24 inches, height stern, 23 inches, depth midship, 14 inches; number seats, 4; seating capacity, 5; weight, 140 lbs.,	45 00
Rudder and Yoke, extra,	1 50
Lazy Backs, extra,	2 50

These Boats are the safest, lightest, most durable and popular fishing and family boats afloat. Owing to their moderate cost and satisfaction given, there are a great demand. We claim they are the best boat in the market for the money.

Oak keel, stem, stern and ribs. Gunwales oak or white ash. Pine or white cedar seats, fastened with [illegible] iron knees. Ash or Oak breast hook. Planking pine, fastened with iron nails and screws. Two pairs galvanized iron rowlocks. One pair straight ash oars. Iron stem band. Movable bottom boards. Painted throughout.

ALL BOATS PEARSON'S CELEBRATED MODEL.

WILL SEND COMPLETE CATALOGUE OF BOATS ON APPLICATION

HARDWARE SPORTING GOODS DEALERS

OUR LATEST MODEL ...THE NEW IDEAL RIFLE

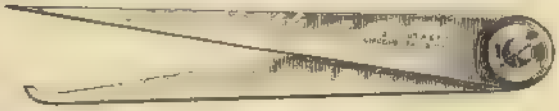
Send for Catalogue of "Up-to-Date" Sporting Goods

ALSO MANUFACTURERS OF

Finest Mechanical Tools

J. STEVENS ARMS & TOOL CO.,

P. O. Box 8888,
Chicopee Falls, Mass.

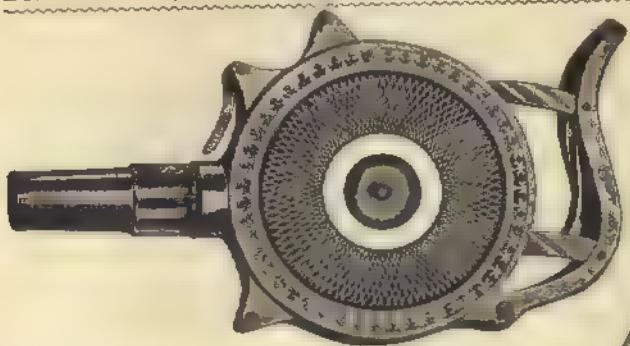


Stevens Hermaphrodite Callpers with the New Screw Joint

All styles and sizes of our Firm Joint Calipers are made with our New Screw Joint same as No. 5E in cut, which the user can adjust to suit himself as though we adjust them to what we consider the proper tension.

This joint in connection with our friction washer with its even tension, and the fine finish of the Caliper, is pronounced the superior of any similar tool on the market.

Send for Complete Catalogue of our Fine Tools



2-3 SIZE

"Protector" Revolver

A NEW DEPARTURE IN SMALL ARMS.

Superior to all others for close contact and rapid action. Seven shots. Can be carried in the hand ready for action without attracting attention, and as easily withdrawn from the pocket as a watch. The ammunition used is the Winchester or U. M. C. Metallic Cartridge No. 32 extra short, rim fire.

Prices and descriptions upon application.

Perfection Padlocks

Made only in Bronze or Nickel Plate. Eight Levers, impossible to be picked, strongest Padlock made.

Adopted by the U. S. Government and most Railroads, **as being the best Padlocks made.**

Manufactured by

AMES SWORD CO.

CHICOPEE, MASS.

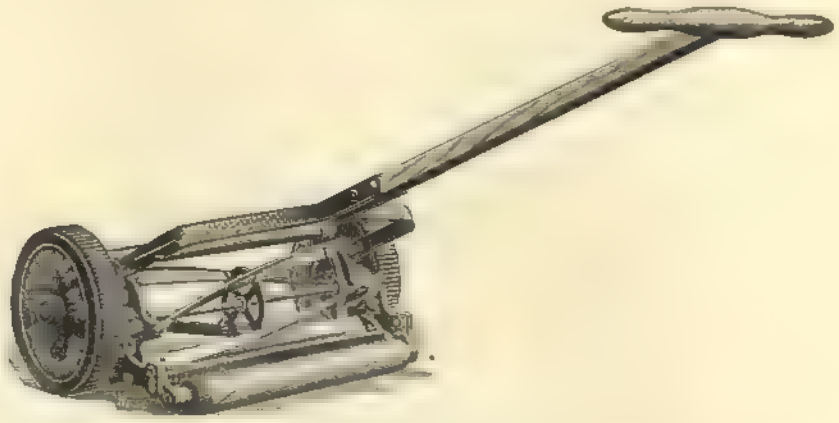
GEO. J. WELLS, Agent

38 Chambers St., NEW YORK

Manufacturers' General Agent for First-Class Specialties

Lawn Mowers.

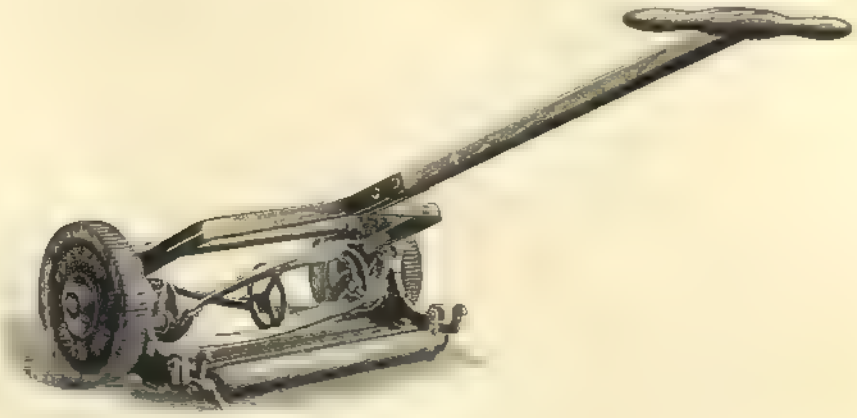
The "New Quaker City."



Rear Cut, Incased Gear, Enos' Patent Bed Knife, Open Cylinder; Height of Wheels, 7 Inches.

Size of Cut, inches,	10	12	14	16
Each,	$13.00	15.00	17.00	19.00

The New Departure.

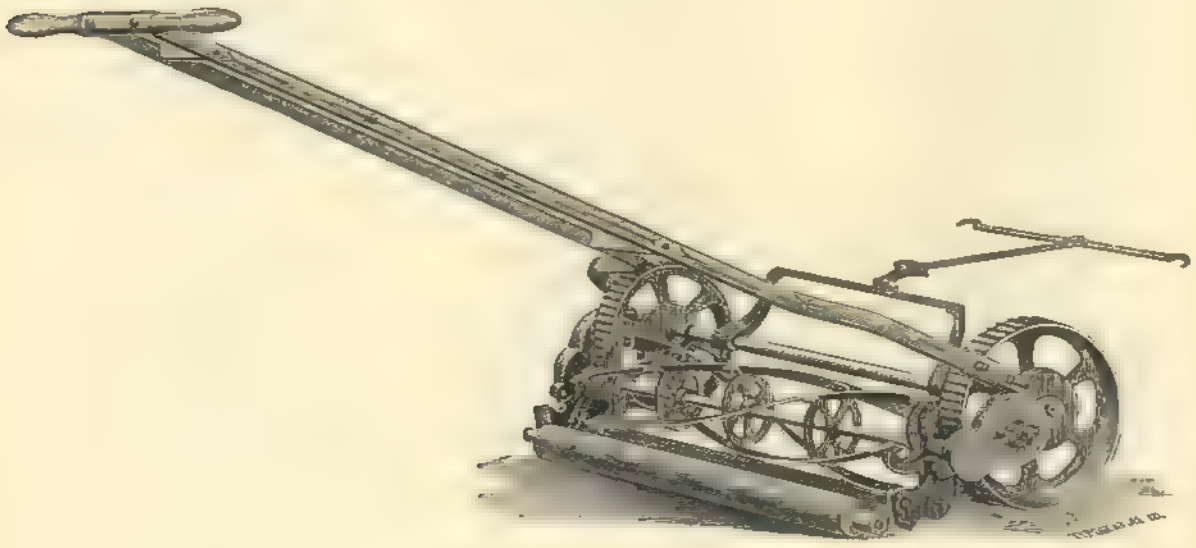


Rear Cut, Incased Gear, Height of Wheels, 7 Inches.

Size of Cut inches.	12	14	16
Each,	$7.50	8.50	9.50

Lawn Mowers.

The "New Pony."



25 inch Cut; Weight, 110 lbs.

Rear Cut, Geared on Both Sides, Open Cylinder, Enos' Patent Bed Knife.

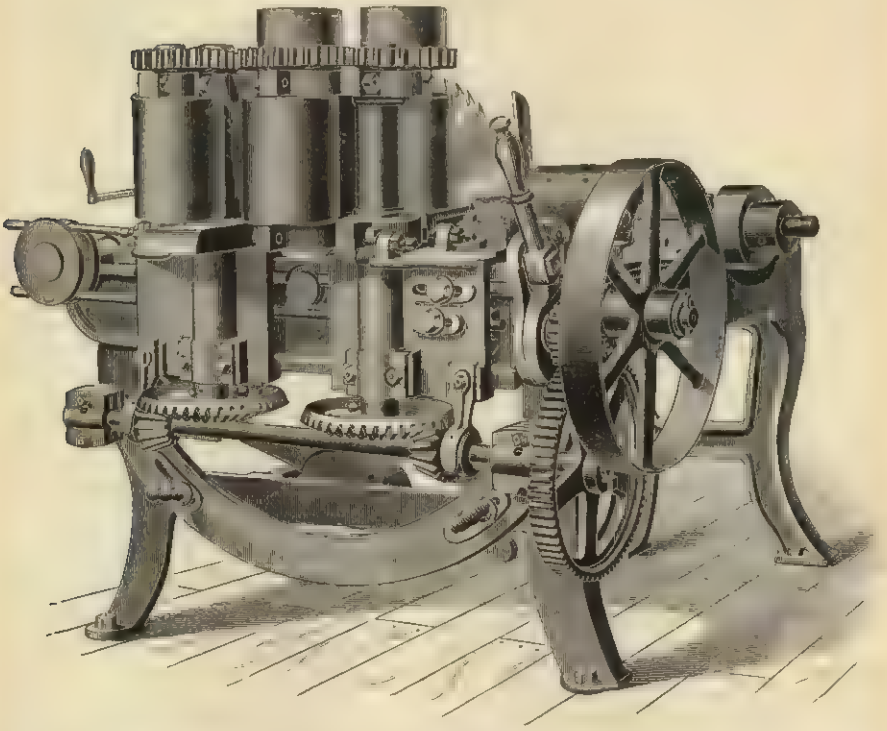
	Each
New Pony, Complete with Handles and Draft Irons, ...	$50.00

This Lawn Mower can be used with a pony and boy to guide the Mower, or one man to pull and a boy to guide. It has a patent Shifting Clutch, by which the Mower can be thrown Out of Gear—the reel becoming stationary—whilst moving from one place to another. Will Cut grass from two to ten inches high.

Lawn Mower Parts.

For List of Extra Parts on Lawn Mowers, shown on Pages 210 to 213, send for Special List of Extra Parts of Lawn Mowers.

IMPROVED SIDING AND RE-SAWING MACHINE.



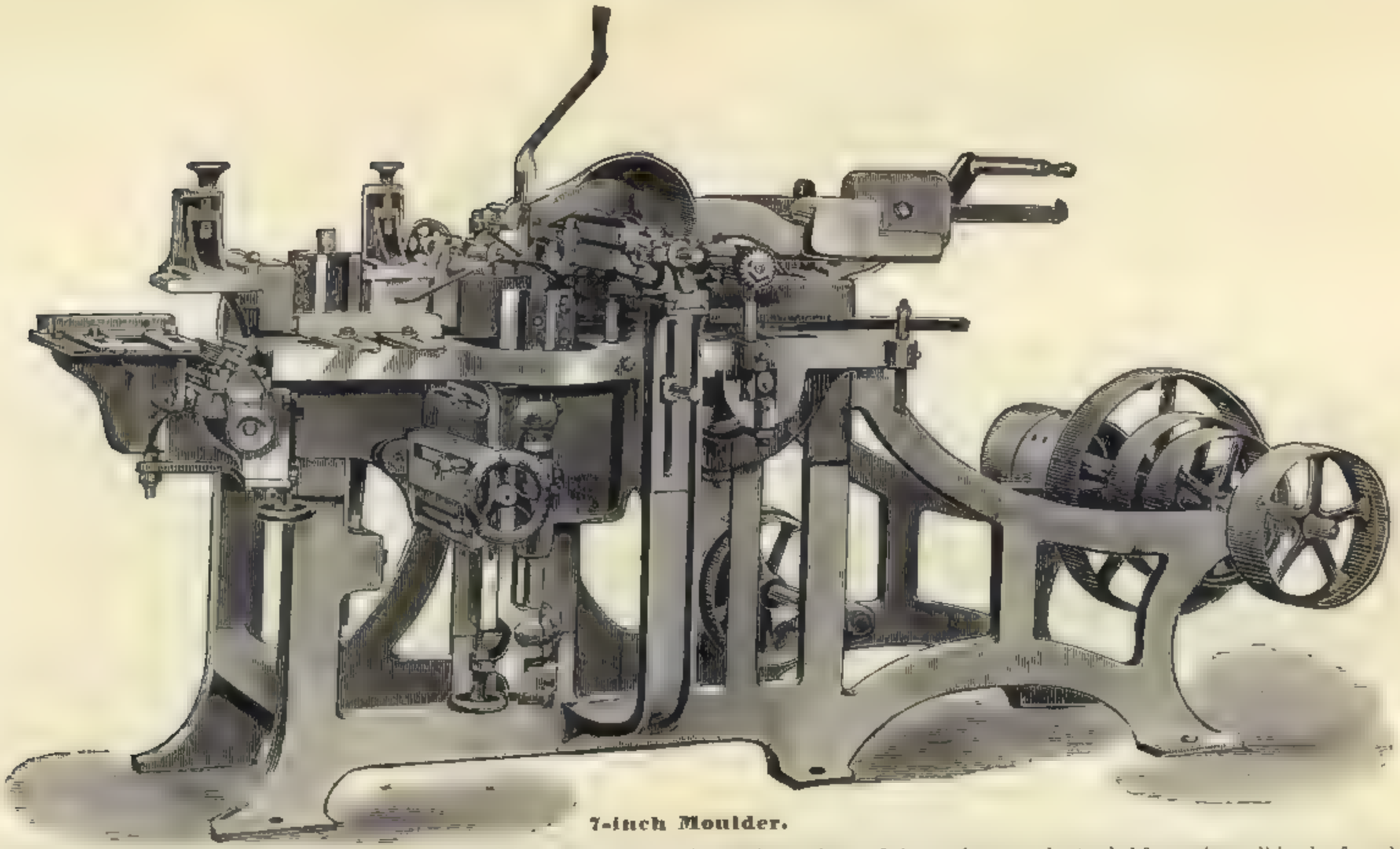
This machine will re-saw and make bevel siding, or weather boarding. The feed works consist of four powerful six-inch feed rolls, weighted, and mounted on a swinging frame, arranged to self center, or to allow of sawing from the side, when so desired. The top rolls are all strongly geared. The machine will do all kinds of re-sawing, and will center any thickness of material from one-quarter inch to six and one-half inches, with precision. By simply turning a screw all four feed rolls can be set to any bevel required. The arbor is arranged to be adjusted to the feed rolls as the saw is reduced in size by wear. This machine has reversible feed, by which the rolls can be instantly reversed. At a small extra cost, jointing heads may be added for jointing the edges of siding.

We make two sizes of this machine, one to carry a twenty-four inch saw, and one a thirty-inch saw.

The Arbor Pulley on the twenty-four-inch machine is eight-inch diameter for eight-inch belt, and should make 1,500 revolutions. On the thirty-inch machine it is ten inches by eight inches, and should make 1,200 revolutions.

Price, twenty-four-inch machine.....$275 00
Price, thirty-inch machine..... 300 00

NEW SEVEN-INCH PHILADELPHIA MOULDER.



7-inch Moulder.

Our New SEVEN-INCH is designed for general work in sash and door car cabinet and agricultural shops. It is very heavy and intended for working all kinds of mouldings up to 7 inches wide. All the arbors are steel and carry four slotted cast-iron heads the upper arbor has a detachable outside bearing which may be quickly removed to allow operator to change cutters with little or no loss of time, the side arbors are adjustable vertically and laterally, and the outer one may be inclined to any angle desired and can be moved to or from the work without disturbing the angle. The top cutter-head arbor can be adjusted laterally and the bottom one has both vertical and lateral adjustment. The bed is provided with friction or driven roll is operated by a single screw and drops 16 inches. The machine has two top feed-rolls the large one is weighted the smaller is held firmly by a spring. The machine is provided with an adjustable weighted Lip-breaker a pressure bar, springs, guides and everything necessary for quick adjustment.

Tight and loose pulleys, 11 inches in diameter and 5 inches face and should make 900 revolutions per minute. Weight, 1,800 pounds.

PRICE: 7-inch Machine to work four sides with Friction Roll . . . . . $300.00. With Geared Roll $325.00

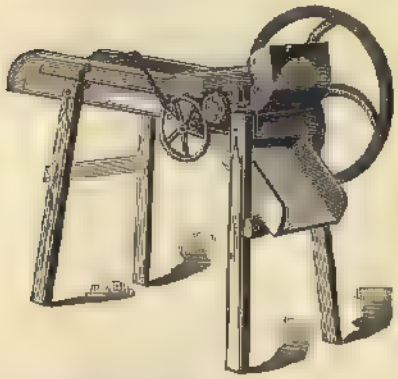
6-INCH MOULDER. The same general description applies to this machine as to the 7-inch Moulder except it has no outside bearing to the top cutter-head arbor. Tight and loose pulleys, same as on 7-inch machine. Weight, 1,700 lbs. Price, to work 4 sides, $260.00. Write for price and description of 5-inch Machine.

THE DANDY Steel Mill and Steel Tower

Thoroughly Galvanized after completion. *Over 25,000 in use. Has stood the severe wind storms for five years* and has demonstrated its ability to stand them for years to come. Made of the best cold rolled steel and fully guaranteed. When furnished with Graphite Boxes they *need no oil.* We also make a complete line of Power Mills, Tanks, Pumps, Grinders, Shellers, Horse Powers, etc. Write for prices.

Challenge Wind Mill & Feed Mill Co.,
BATAVIA, ILLINOIS.

"OHIO" LINE FEED CUTTERS



HAND CUTTERS
POWER CUTTERS
ENSILAGE CUTTERS and CARRIERS

Horse Power Engines, Feed Mills and Steam Cookers.

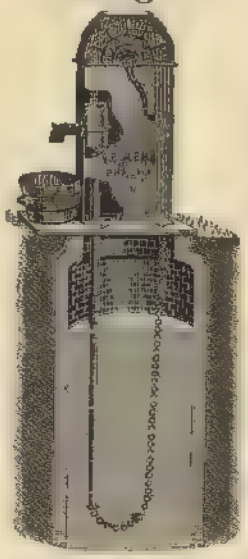
THE SILVER MFG. CO.

SALEM, OHIO

Pure Pump Water.

Your water will always be clean and sweet if you use

KEGLER'S PATENT
Galvanized Iron
Tubing and Curb



No taste of iron or wood.
No rotting, no rust, no filth.
No freezing, as upper section of Tubing is made tapering
No waste of water, on account of enlarged head on Tubing.

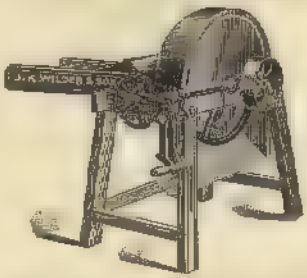
More Durability.
Less Weight.

Tubing is 12 times lighter than wet wood. Can be attached to any curb. The only satisfactory Tubing and Curb for Champion pumps. Send for illustrated Catalogue.

Sole Manufacturers,

Bellevue Pump Co., Bellevue, Iowa

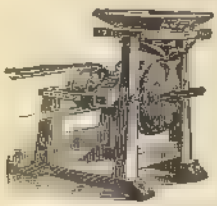
FEED CUTTERS



.. Two styles
Twelve sizes
ALSO..
Feed Mills
Horse Powers
Jacks and Corn
... Shellers

Send for Catalogue to **J. K. WILDER & SONS**
Monroe Michigan

DEALERS ARE JUBILANT



Over this season's prices on the excellent line of Portable French Buhr Grinding Mills consisting of over 30 sizes and styles. The New Light Running Iron Mill which grinds ear corn with or without the shuck and all kinds of small grain.

The Sweep Mill and Wind Mill Grinder
The Hand and Power Corn Shellers
The Portable Saw Mills and
The Gas and Gasoline Engines

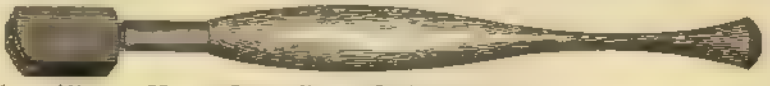
Manufactured and handled by

NORDYKE & MARMON CO., Mill Furnishers, **Indianapolis, Ind.**

Catalogues and Prices on application. Special inducements to live dealers. Estimates furnished on Roller Process Flour, Corn, Rye and Buckwheat Mills. We have whatever is wanted in the way of Mill machinery and supplies.

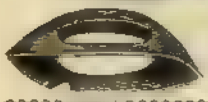
HARDWARE SPECIALTIES DEALER

GLASS CUTTERS... OUR SPECIALTIES



Are you handling "Up-to-Date" goods in this line?
Samples for comparison furnished free to the Jobbing Trade

W. L. BARRETT, BRISTOL, CONN., U. S. A.



Glass Cutters
Pot Scrapers and
Hardware Novelties

Write for Catalogue Prices of my full line

THOMAS J. ANDRESS
821 Cherry Street, Philadelphia, Pa.

William F. Nye,

Manufacturer of **OILS** For all Delicate Machinery

Watch, Clock, Chronometer, Typewriter, Electrical Instrument, Bicycle, Gun, Jeweler's Lathe and Sewing Machine Oils.

Sold by all Hardware Dealers

Dynamo, Engine, Cylinder, Spindle and Loom Oil

When in need of any Oil for *Special Machinery*, Write us for Information.

WILLIAM F. NYE,
New Bedford, Mass., U. S. A.

Climax Watch

For
$2.00

AMERICAN
Lantern Pinion
STEM WIND
¾ Plate
GILT
and Nickel
PLAIN
and Fancy
CASES

Over 300,000 of our watches sold in 1894. Over one half of them through the Hardware Trade. Each Watch is Fully Guaranteed. Price, $15.60 per dozen net, spot cash, including chain with each watch. Send for sample.
Circulars and catalogue free.

ROBERT H. INGERSOLL & BRO.
Sole Manufacturers
65 CORTLANDT ST., NEW YORK

Woodman's Patent Ticket Punches and Speed Indicators

MANUFACTURED BY THE
R. WOODMAN MFG. & SUPPLY COMPANY
68 Oliver Street, Boston, Mass.
—SEND FOR DESCRIPTION, PRICE LISTS, ETC.

Extra Strong Paper for Catalogues

Send for Samples

F. A. FLINN
32 Beekman Street, NEW YORK

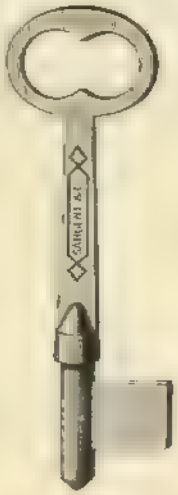
Door Key Blanks.

CUTS FULL SIZE

Nickeled and Nickel Plated. For Mortise Locks.

No. 142.

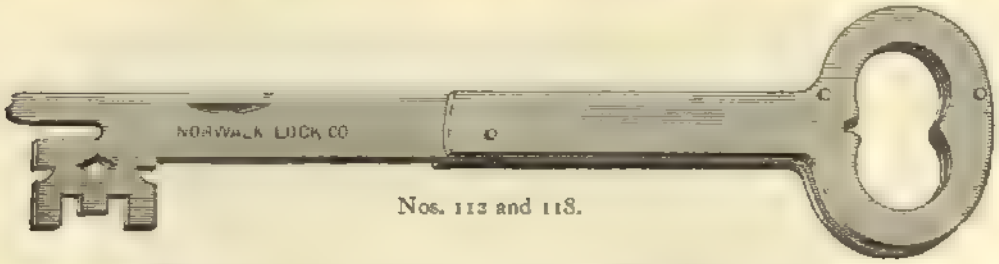
No 220½.



Nos. 310 and 310½.

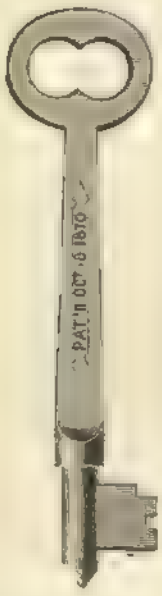
Nos. 6⅛ and 6½.

No. 416¾.



Nos. 113 and 118.

Nickeled and Nickel Plated. For Rim Locks.



Nos. 76½ and 82½.

Nos. 37¼ and 38½.

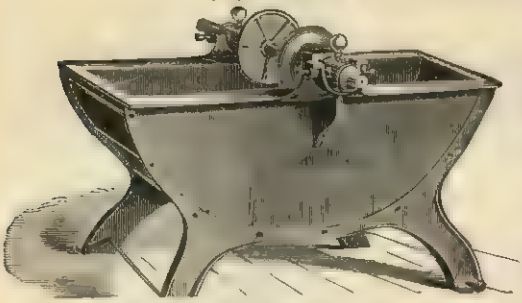
No. 220.

No. 225.

No. 520.

No. 525.

IRON FRAME FOR POWER GRINDSTONES.



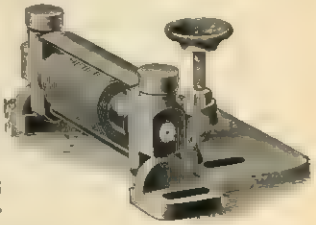
Our Iron Frame for power driven stones is provided with shield to prevent discharge of the water from the stone, with an adjustable rest, with grooves for holding the tool. The frame is water-tight, has universal journal box, and the bearings are effectually protected from the grit of the stone. The arbor is made with flanges and nuts, and so arranged that a heavy stone can be hung with as little trouble and held as firmly as a saw. They are indispensible in all establishments where tools are kept in order; the price is very low.

No. 4. Takes stone 4-inch face, 30-inch diameter, $25 00.

No. 5. Takes stone 5-inch face, 42-inch diameter, $35.00.

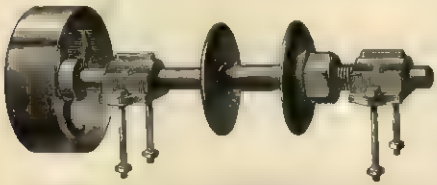
No 6. Takes stone 8-inch face, 54 inch diameter, $50.00.

GRINDSTONE DRESSING MACHINE.



The Grindstone Dresser here shown does away with the labor, dust and inequalities arising from the old methods. It can be applied while the stone is being used to grind. The cutting roll is formed of discs, which in their revolutions produce on the face of the stone a perfectly true surface, leaving it in the best possible condition for grinding. Prices adapted to grindstones of 4-inch face, $9.00; 6-inch face, $12.00; 8-inch face, $14.00; 10-inch face, $16.00; 12-inch face $18.00. Extra discs 5 cts. each.

GRINDSTONE MANDREL FOR POWER.



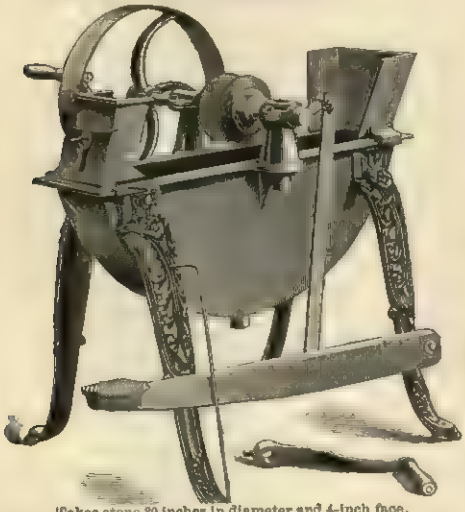
No. 1. Mandrel—1 7-16 shaft, one tight and one loose collar, 8 inches diameter, suitable for stone from 30 to 48 inches diameter, 3 to 6 inch face, $12.00.

No. 2. 1 15-16 shaft, 10-inch collars, suitable for stones to 60 inch diameter, $16.00.

Driver pulley extra. State diameter and face desired.

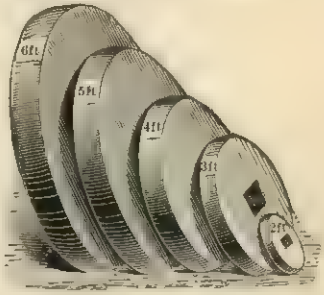
PERFECTION IRON GRINDSTONE FRAME.

With Water Guard and Adjustable Tool Rest.



Takes stone 30 inches in diameter and 4-inch face. Price, without pulley or treadle attachment, $13.50. Pulley, extra, $2.00. Treadle, $2.00.

OHIO GRINDSTONES.

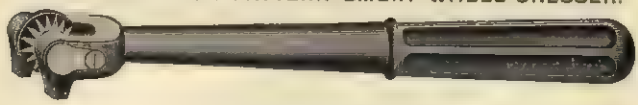


Our grindstones are from the best Cleveland and Berea quarries. We select them carefully for the work intended. We can fill orders promptly from stock at hand, unless dimensions required are out of standard.

Approximate Weight of Stones.

Thickness	DIAMETER.						
	2-0	2-6	3-0	3-6	4-0	4-6	5 ft.
2 inch	73	114	164	224	293	370	458
3 inch	110	171	247	336	439	555	687
4 inch	146	229	329	448	586	741	916
5 inch	183	286	412	561	733	927	1145
6 inch	219	343	494	673	879	1112	1374

THE HUNTINGTON PATTERN EMERY WHEEL DRESSER.



(Too well known to require description.)

Price of Dresser with Two Sets of Cutters $1 50
Extra Cutters, per Set (of three) 30

THE STANDARD EMERY WHEEL DRESSER.

This is one of the best tools made for turning and sharpening solid or covered emery wheels. It will true the hardest wheels and grindstones. Its advantage over others is that the cutter wheel always presents the same cutting surface until it is used up to the hub.

Price, with one extra Cutter $2 00
Extra Cutters, each 40

BRISBEN PATENT EMERY WHEEL DRESSER,

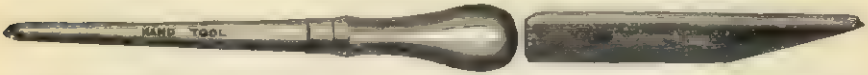
With Patent Shell Cutters.

This tool is fully guaranteed. We send them out with privilege of return if not satisfactory.

Price of Dresser, complete $2 00
Extra Solid Cutters, each 60
Loose Shells, each 30

CARBON POINTED EMERY DRESSING TOOLS.

(Commonly known as Diamond Pointed Tools.)



We illustrate below a complete line of Diamond tools for truing and turning the faces and sides of emery wheels, grindstones, chilled iron rolls, and for removing emery from the faces of polishing wheels. The pieces of carbon that go into these tools are carefully selected, and are all of good size. The common error of putting very small pieces of carbon in the tools has been avoided, as large ones are the cheapest to use. We can furnish loose carbons, or "black diamonds," of the very best quality, at lowest market prices.

Hand Diamond Tool.

	No. 1	2	3	4	5	6	7
Price, each	$8 00.	10 00.	12 00.	15 00.	20 00.	25 00.	30 00.

Lathe Diamond Tool.

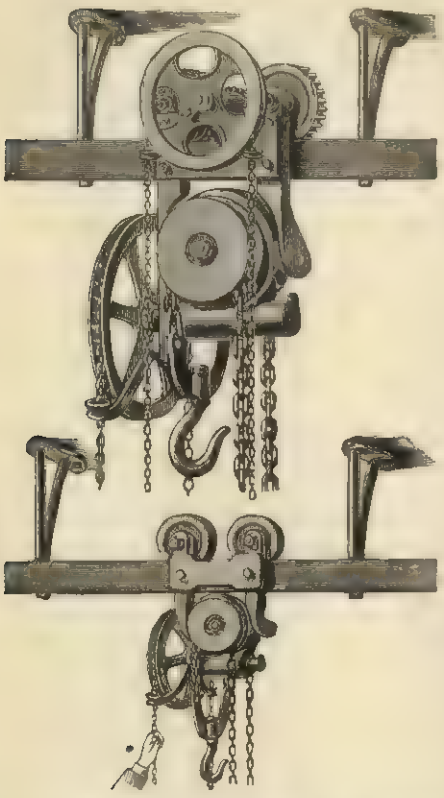
	No. 8	9	10	11	12	13	14	
Price, each	$12 00.	14 00.	16 00.	20 00.	25 00.	30 00.	40 00.	50 00.

Adjustable Diamond Tool.

	No. 16	17	18	19	20	21
Price, each	$20 00.	25 00.	30 00	35 00	50 00	75 00.

OVERHEAD RAILWAY AND APPLIANCES.

Combined Hoist and Traveler.



Cut at top shows combined Hoist and Traveler, geared pattern; cut below shows plain style (not geared).

One man can raise and move the load no matter how heavy, without perceptible jar.

These machines are also made to run on lower flange of I beams.

Capacity.	Size of Rail.	Price, Per foot.	Hangers, Each.	Drop of Hanger.	Turn Tables.	Switches.	Hoist and Traveler, plain.	Hoist and Traveler, geared.
500 lbs.	3 x ¾	$ 45	$1 75	7¾ in.	$60 00	$35 00	$ 32 00	$ 50 00
1000 "	3 x ¾	45	2 00	9 "	60 00	35 00	34 50	52 50
2000 "	4 x ¾	68	2 50	12 "	60 00	35 00	44 00	61 00
3000 "	4 x ¾	68	2 80	16 "	60 00	35 00	52 00	71 00
4000 "	4 x ¾	68	3 00	20 "	60 00	35 00	67 50	86 00
6000 "	6 x 1	1 25	3 10	24 "	75 00	50 00	88 50	110 00
8 00 "	6 x 1	1 25	3 50	30 "	75 00	50 00	106 50	130 00

Price of Rail includes fitting and bolting to Hangers. Hangers include bolts. Distance between Hangers will be made five feet, unless otherwise specified.

Cut below illustrates Overhead Railway and Hoisting apparatus, with switches and turn table erected, as adapted to a great variety of uses.

Estimates will be furnished for double and single tracks, curved or straight, with traveler and hoist, any required capacity from 500 lbs. to 10 tons.

PATENTED HELICAL PULLEY BLOCKS.

WITH LUBRICATED COUNTERWEIGHT.

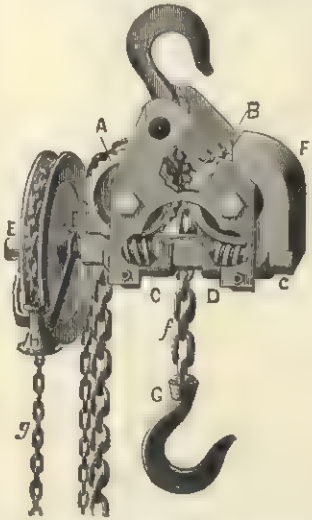
These hoists are the most powerful and the easiest to operate on either heavy or light loads of any ever offered to the trade. The worm gearing is of bronze, and is perfectly fitted, so that the friction is reduced to the last degree.

The power required for lifting is only 5 per cent. of the weight raised, and the lowering is effected with ease. The lifted weight cannot run down of its own accord when suspended. The operator can stand back the whole length of the hand chain from the load. The blocks may be worked from below, above or from either side. The pressure of the screw upon the pinion is never more than half the weight of the load. The pressure of the screw upon the pinion never exceeds 1 ton

Lift by feet.	To Raise lbs.	Price.	Extra Lift, per foot.
8	500	$22 50	$1 00
8	1,000	25 00	1 20
8	2,000	30 00	1 50
8	3,000	40 00	1 75
9	4 000	53 00	2 00
10	6,000	75 00	2 20
10	8,000	95 00	2 40
12	10,000	140 00	3 00
12	12 000	180 00	3 75
12	16 000	260 00	4 75
12	20,000	340 00	6 00

☞ The height of Lift should be stated when ordering. For No. 1 the length of chain required is about 4 times the height of Lift; for No. 2, 6 times; and for No. 3, 8 times. This includes the hand chain.

PATENT PORTABLE DOUBLE SCREW HOISTS.



Our double screw hoists have guides for both hand and lifting chains, thus allowing the operator to stand in any position The strain is taken upon right and left screws, which obviates the necessity of a thrust block for the screw, while the friction is greatly reduced. They can be used in any position from vertical to horizontal

PRICES AND CAPACITIES OF DOUBLE SCREW HOISTS.

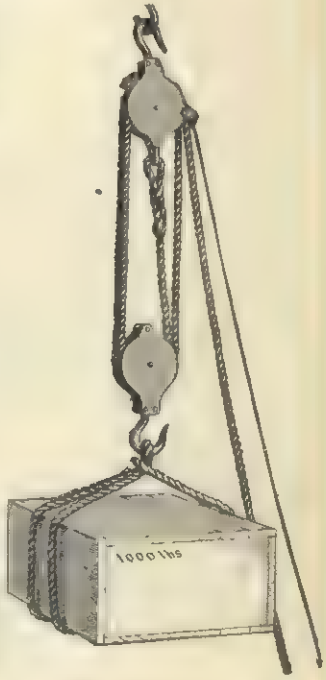
To Raise.	Lift.	Weight.	Price.	Extra Lift, per foot.
500 lbs.	8 feet.	25 lbs.	$22 50	$0 65
1000 "	8 "	35 "	25 00	75
2000 "	8 "	50 "	30 00	95
3000 "	8 "	80 "	40 00	1 10
4000 "	9 "	100 "	60 00	1 25
6000 "	10 "	120 "	75 00	1 50
8000 "	10 "	140 "	93 00	1 85

DETROIT SURE GRIP ROPE HOIST.

The Detroit Sure Grip Hoist will hold load at any point without backward slip. The brake is absolutely automatic and positive. Its efficiency increases in proportion to increase of load at same time it is disengaged by slight pressure.

No. 4	for ¼ inch rope, one man can lift 300 lbs.; will lift 600 lbs			$ 3 00
No. 4½	"	350 "	" 1000 "	5 50
No. 5	"	600 "	" 3000 "	10 00
No. 5½	"	900 "	" 1800 "	7 00
No. 6	"	700 "	" 3500 "	12 00
No. 6½	"	450 "	" 2500 "	8 50
	"	850 "	" 5000 "	11 00

DETROIT SURE GRIP ROPE HOIST.

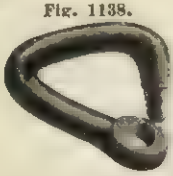


QUEEN CITY SUPPLY CO. CINCINNATI, O.

PATENTED Dec. 30 1902

COLD SHUTS AND CHAIN HOOKS.

Fig. 1138.



Cold Shut for Repairing Chain.

		Soft Steel.	Norway Iron.
No. 339, for 1/4 inch Chain	Price per 100,	$ 3.80	$4 50
No. 340, " 5/16 " "	" "	4.05	4.85
No 341, " 3/8 " "	" "	4.15	5.10
No. 342, " 1/2 " "	" "	4.85	6.00
No. 343, " 1/2 " "	" "	5.40	7.90
No. 344, " 5/8 " "	" "	8.45	11 25
No 345, " 5/8 " "	" "	12 40	17 00
No. 346, " 3/4 " "	" "	22.50	28 00

Cold Shut for Repairing Chain.

Fig. 1139.

No. 325. for 1/4 inch Chain, per 100	$18 00	No. 332, for 1/4 inch Chain, per 100	$18.00
No 326, " 5/16 " " "	18.00	No 333, " 5/16 " " "	18 00
No. 327, " 3/8 " " "	20 00	No. 334, " 3/8 " " "	20 00
No 328, " 7/16 " " "	24 75	No. 335, " 7/16 " " "	24 75
No 329, " 1/2 " " "	26 00	No 336, " 1/2 " " "	26 00
No 330 " 5/8 " " "	58 25	No. 337, " 5/8 " " "	38 25
No 331, " 3/4 " " "	49 50	No. 338, " 3/4 " " "	49.50

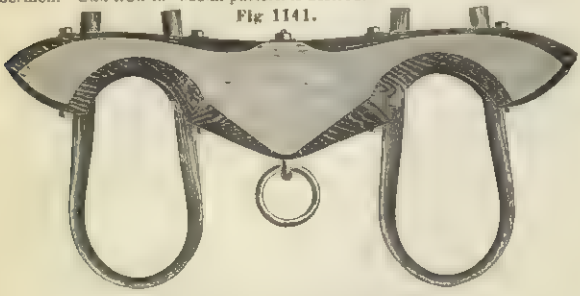
Fig. 1140.

Round Chain Hook. **Grab Chain Hook.**

Horse Shoes and Ox Shoes in Boxes of 112 pounds, 50 lbs. each . . . . Per pound . .
Horse Nails in Boxes of 25 pounds. . . . . " . . .

Our Yokes are made of the best Soft Maple, free from heart, and of the most improved patterns suggested by prominent and experienced lumbermen. Can iron to special pattern if desired.

Fig 1141.

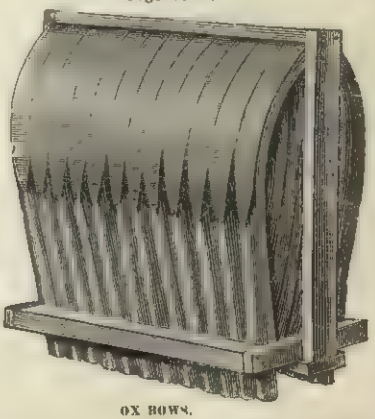


Painted Two Coats of Red Lead.

PRICE LIST, WITHOUT BOWS.

No. 428.	Extra Heavy, Assorted, 9, 9½ or 10 inch between holes for 2¼ or 2½ inch bows, Not Ironed..... Each,	$9.00
No 429.	Heavy, 8x13 inch 8½, 9 or 9½ inch between holes, for 2¼ inch bows. Not Ironed..... "	8 25
No 430.	Heavy Medium, 8x10 inch, 8, 8½, or 9 inch between holes, for 2⅛ or 2¼ inch bows. Not Ironed .... "	7 50
No. 431.	Light Medium, 8x10 inch, 7½, 8 or 8½ inch between holes, for 2 inch bows, Not Ironed..... .. "	6 50
No. 432.	Light 7x9 inch, 6, 6½ or 7 inch between holes, for 1⅝, or 1¾ inch bows Not Ironed ... . "	6.25
No. 433.	Extra Heavy Assorted, 9, 9½ or 10 inch between holes, for 2¼ or 2½ inch bows, Ironed .... "	13.00
No 434.	Heavy 8x13 inch, 8½, 9 or 9½ inch between holes, for 2¼ inch bows, Ironed .... "	11.75
No. 435.	Heavy Medium, 8x10 inch, 8, 8½ or 9 inch between holes, for 2⅛ or 2¼ inch bows, Ironed..... "	11.25
No. 436.	Light Medium, 8x10 inch, 7½, 8 or 8½ inch between holes, for 2 inch bows, Ironed .. .. "	10.00
No. 437,	Light, 7x9 inch, 6, 6½ or 7 inch between holes, for 1⅝ or 1¾ inch bows, Ironed..... ..... "	9.50

Fig. 1142.



OX BOWS.

We call special attention to the superior **quality, finish,** and shape of our Ox Bows. They are made of strictly Second Growth Shell Bark Hickory, and turned with the bark on with our own special machinery.

Our **Perfection** Bows are carefully selected, finely finished and covered with two coats of varnish, thereby preventing any action from worms or flies during the hot summer months,

The **Star.** or No. 1 Bows, are not as finely finished as the **Perfection,** and are not as carefully selected, but give satisfaction where a good, cheap bow is wanted.

PRICE LIST OX BOWS

Size, Inches.	1⅝	1¾	2	2¼	2⅛	2½
Perfection, - No.	416	417	418	419	420	421
List per doz pairs,	$15 00	16.25	17.50	18.25	18 75	23.75
Star, - - No.	422	423	424	425	426	427
List, per doz. pairs,	$12 50	13 75	15.00	15.75	16.25	21.25

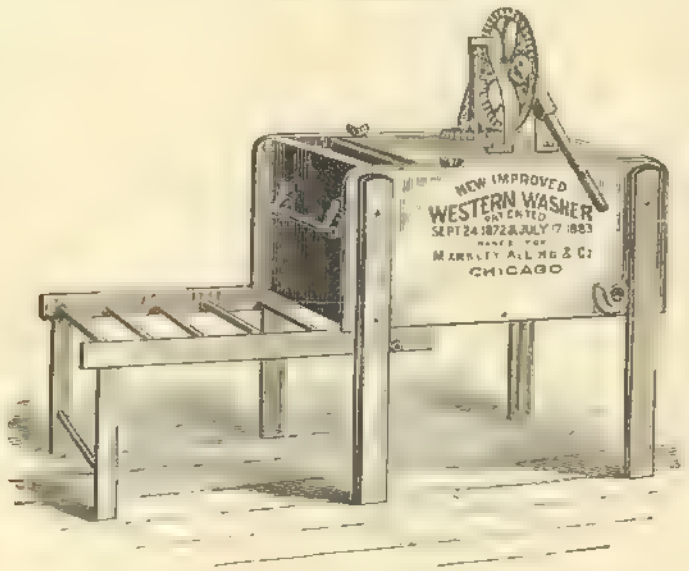
Packed one-half dozen pairs in a crate.

Clothes Washers.

The Pan-American.

Pan-American, Round Washer. with Corrugated Sides and Bottom. . Per Dozen $40.00

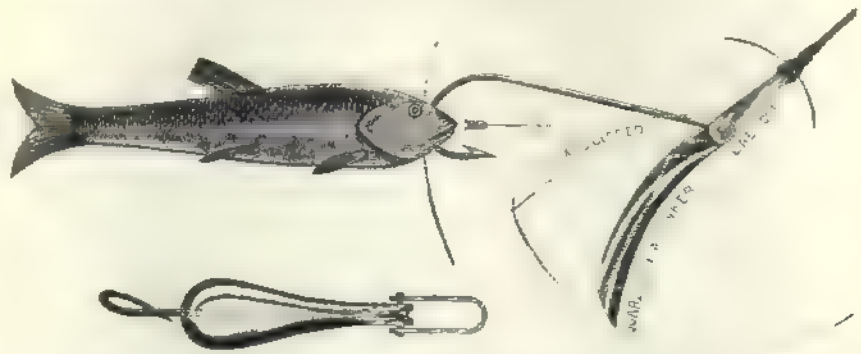
The Western.



No. Latest Improvements, Corrugated Sides and Bottom.

2. Western Washer, Family Size, ... 36.00
3. Western Washer, Large Family Size, ... 40.00

Payson's Automatic Weed Guard, Lure and Sinker.



NO	DESCRIPTION	PER DOZEN
2-0	Carlson Hook Nickel Plated Bronze Metal Guard,	$5 00
4-0	Carlson Hook Nickel Plated Bronze Metal Guard,	5 00
7-0	Carlson Hook, Nickel Plated Bronze Metal Guard,	6 00

An automatic device which will not catch weeds, and WILL catch fish in weedy or [illegible] It requires no adjustment, always ready for use. [illegible] has no springs or trippers, requires no pull or push, but is strictly self operating. It is adjusted ready for casting, trolling or [illegible] If fishing [illegible] much better than a common hook, as it is a positive and remarkable lure. The guard, hook and hook are hinged and swing free [illegible] any kind of bait can be used. It has one striking advantage of any other hook [illegible] the best right size of

Bass and Trout Spinners.

Two Thirds Size Cuts.

No 8 No 5 No 7 No 9

NO.	DESCRIPTION	PER DOZEN
8	Bass and Trout Spinners,	$3 00
5	Admiral Spinners,	4 00

ONE ONLY ON A CARD.

NO	DESCRIPTION	PER DOZEN
7	Catskill Spinners,	$5 00
9	Pet Spinners,	5 00

ONE ONLY ON A CARD

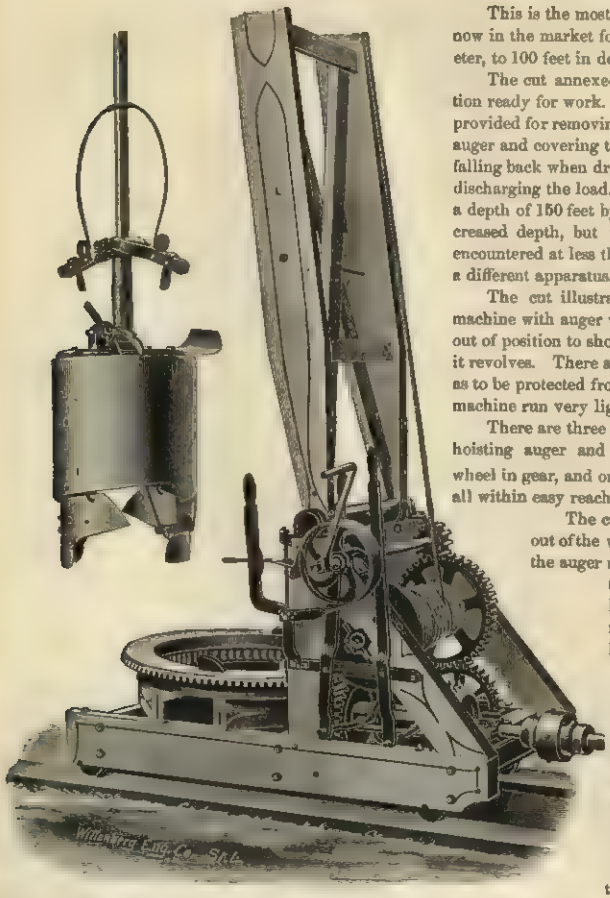
Trolling Baits.

Assortments, in Boxes

No.	DESCRIPTION	PER BOX
A	Assortment containing Six Trolling Baits as follows, one each, No. 3 Nickel Plated Bait, No. 4 Paragon, Embossed, No. 5 Paragon, plain finish, No. 2 Mentor, No. 1 Mentor, No. 4 Irving Spoon, in Strong Paper box,	$1 00
B	Assortment containing Six Trolling Baits as follows, one each, No. 4 Enterprise Embossed Spoon, No. 5 Clipper Spoon, No. 3 Revolution Spoon, No. 5 Plated Spoon, No. 3 Irving Spinner, No. 3 Paragon Spoon, in Strong Paper Box	1 75

No.	DESCRIPTION	PER BOX
C	Assortment containing Six Trolling Baits as follows, one each, No. 4 Enterprise Embossed, No. 2 Success Spoon, No. 3 Action Spoon, No. 5 Fluted Spoon, No. 4 Irving Spinner, No. 3 Clipper Spoon, in Strong Paper Box	$2 50

PECH'S MONITOR WELL BORING MACHINE.



This is the most successful and efficient apparatus now in the market for boring wells 24 to 36 inch diameter, to 100 feet in depth.

The cut annexed shows the machine set in position ready for work. A cart, not shown in the cut, is provided for removing the dirt, being pushed under the auger and covering the well, to prevent any dirt from falling back when dropping the bottom of the auger for discharging the load. This machine will bore down to a depth of 150 feet by using smaller augers for the increased depth, but usually rock formations will be encountered at less than 100 feet, for which we furnish a different apparatus. (See succeeding pages.)

The cut illustrates the boring apparatus of the machine with auger withdrawn and boring wheel lifted out of position to show the friction rollers upon which it revolves. There are 85 of these rollers, arranged so as to be protected from dirt and wear, and making the machine run very light.

There are three levers on the machine: One for hoisting auger and rods; one for throwing boring wheel in gear, and one to feed the auger down with—all within easy reach of the operator without moving.

The cut represents the auger just raised out of the well, and the dirt emptied out, but the auger not yet closed, so as to show the two half bottoms down. Each half opens from the center, so that no clay can wedge in between the knives.

The operator does not have to hold the cross arm in starting and it does not drop down for any jar. It is always ready for work. When the auger is let down through the boring wheel the cross arm rests on top of boring wheel, and is made so it cannot fall through. As soon as the boring is done and tension relieved, the cross arm springs back to its place and is ready for work again. Others fall down in starting auger, or when striking a stone.

The complete outfit consists of the following:

1 down boring jack.
1 2-horse power.
1 derrick.
1 24 in. auger with reamer to cut up to 36 inches.
4 hollow rods 16 or 18 feet.
1 sledge.
2 12 ft. log chains.
1 monkey wrench.
1 tool box.
200 ft. ¾ in. guy rope.
100 ft. ¾ cast steel cable.
1 swivel.
1 side clevis.
1 sweep.
1 lead pole.
1 safety fork.
8 wood or iron sticks.
1 oil can.
10 steel pins.
1 1⅛ square steel rod 20 feet.
1 tumbling rod.
2 knuckles.
1 stone hook.
1 cross arm.
1 steel crow bar.
4 clamps for hollow rod.
1 dirt cart.
88 rollers for boring wheel.

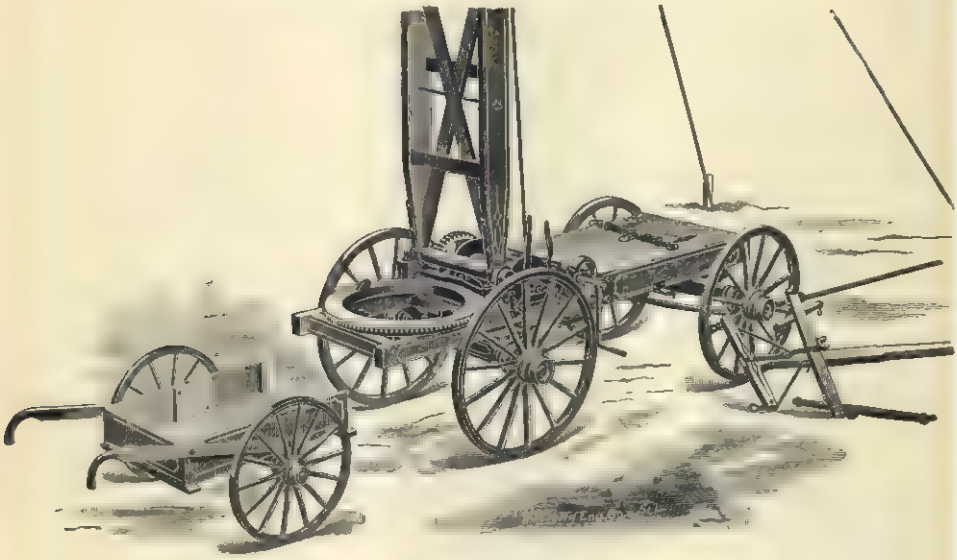
Weight.....3,000 lbs.

Price complete.....$405 00

Add for boring rods, for additional depth, 75 cents per foot.

Price of Auger (if ordered separately, or extra), to bore 24 inch diameter, $50.00.

MONITOR MOUNTED WELL BORING MACHINE.



The cut represents the same apparatus shown on preceding page, mounted permanently on wheels, for transportation and for operating at the well. It saves digging a hole to start the auger, as required with the unmounted machine, but in all other respects the operation is identical. Weight 3,500 lbs.; price $465.00.

PECH'S PATENT EARTH AUGERS.—Fig. 4.

Fig. 4.

Fig. 4 represents Pech's patent Cylinder auger 2 feet in diameter, furnished with reamer to cut 2 feet 6 inch and 3 feet holes. The reamer conveys the earth directly into the cylinder. The auger has two cutting bits which cut evenly, and have about twice the cutting capacity of any other auger. For unloading, the bottom is opened and closed by means of a lever placed on top of the auger. The operator need not get wet nor muddy in handling this auger.

The bottom is in two parts, hinged to open away from the center, which prevents the clay from wedging between the knives. The bits of the augers are forged from the best cast steel, and shell and bottom are forged from the best sheet steel. Price of Patent Cylinder auger, 24 inch diameter, cuts with reamer 24 to 36 inches, $50.00.

Fig. 5.

Fig. 5 represents Pech's half round or Pod Auger. The shell is of ¼ inch and bottom of ⅜ inch steel, with one knife. 6, 8 and 10 inch augers of this style are three feet high; larger than that are two feet high. These augers are mostly adapted to clay and ordinary earth, but putting on a slide and sand valve makes them capable of boring sand and gravel. Fig. 5 shows *slide* or *sand attachment* raised to the top of auger.

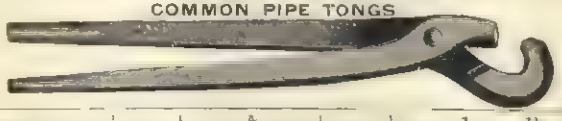
POD AUGER.—Fig. 5.

To cut, diam. of hole, inches.....	6	8	10	12	14	16	18
Price (Fig. 5.)	$16 00	18 00	20 00	20 00	22 00	25 00	28 00

BROCK'S PATENT CHAIN PIPE TONGS.

Size No	0	1	2	3	3½	4	5
Price	$2 50	$3 50	$5 50	$7 50	$9 00	$11 00	$18 00
Capacity	⅛ to ¾″	⅛ to 1½″	¾ to 2½″	¾ to 4″	1 to 6″	1¼ to 8″	2 to 12″
Length	12½″	20″	27″	37″	44″	50″	64″
Extra Chain, each	$0 75	$1 00	$1 50	$2 50	$3 25	$4 00	$6 00
Extra Jaws, pair	1 00	1 75	2 75	4 00	4 75	5 50	7 50

COMMON PIPE TONGS

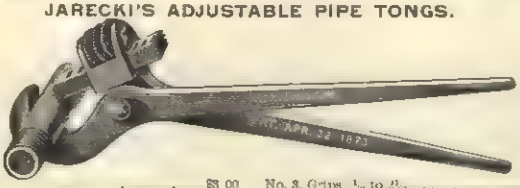


Size	⅛	¼	⅜	½	¾	1	1¼	1½	2
Price	$0 60	$0 65	$0 70	$0 75	$0 90	$1 10	$1 30	$1 45	$1 80

BROWN'S ADJUSTABLE TONGS.

Number	1	1½	2	3	4	5
Takes Pipe	⅛ to ¾	⅜ to 1	½ to 1¼	1 to 2	1½ to 3	2½ to 4
Price	$1 80	$1 65	$2 00	$3 00	$5 00	$11 00

JARECKI'S ADJUSTABLE PIPE TONGS.



No. 0, Grips ⅛ to ¾	$3 00	No. 3, Grips ½ to 2½	5 50
No. 1, Grips ⅛ to 1	3 50	No. 4, Grips ¾ to 3½	9 00
No. 2, Grips ¼ to 1⅜	4 00	No. 5, Grips 2½ to 6	16 00

GAS PLIERS.

Size	8″	9″	10″	11″	12″	13″	14″
Black handle, polished head, per doz	$12 00	$14 00	$15 00	$16 00	$18 00	$21 00	$24 00
All polished, per doz	14 00	16 00	17 00	18 00	20 00	25 00	30 00

COMBINATION PLIERS.

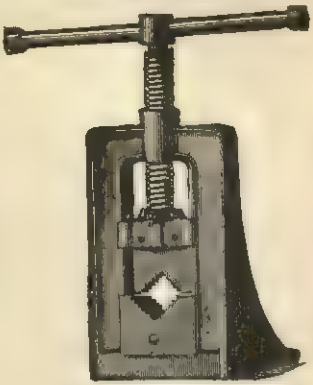
This tool comprises gas pliers, wire cutters, wrench and screw driver.

Size	6″	10″
Black, per dozen	$13 50	$10 00
Nickel Plated, per dozen	15 00	21 00

SEVEN POUND STEEL VISE.

For carrying in tool bag.
Each $4 50

NELSON'S MALLEABLE PIPE VISE.



No. 1. For pipe ⅛ to 2 inches.
Each $8 00

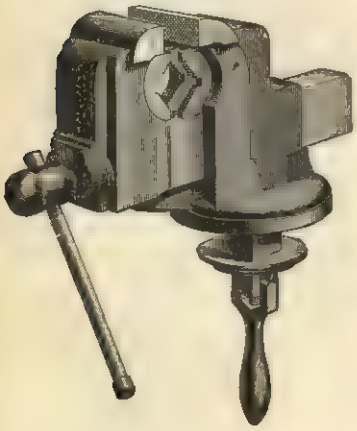
No. 2. For pipe ¼ to 3 inches.
Each.....$12 00.

MALLEABLE IRON HINGED VISE.

No. 1. Hold pipe from ⅛ to 2 inches. Weight, 20 pounds. Each, $10.00. Extra jaws, per set, $1.00.

No. 2. Hold pipe from ¼ to 3 inches. Weight, 26 pounds. Each, $14.00. Extra jaws, per set, $1.50.

PEERLESS COMBINATION VISE.

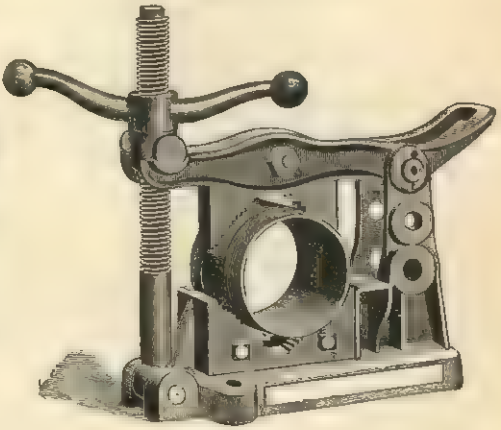


No. 1. To hold from ⅛ to 2-inch pipe.
Price $16 00

No. 2. To hold from ⅛ to 3-inch pipe.
Price $20 00

No. 3. To hold from ½ to 4-inch pipe.
Price $28 00

JARECKI PIPE VISE.



No. 1. To hold from ⅛ to 2-inch pipe.
Price $12 00

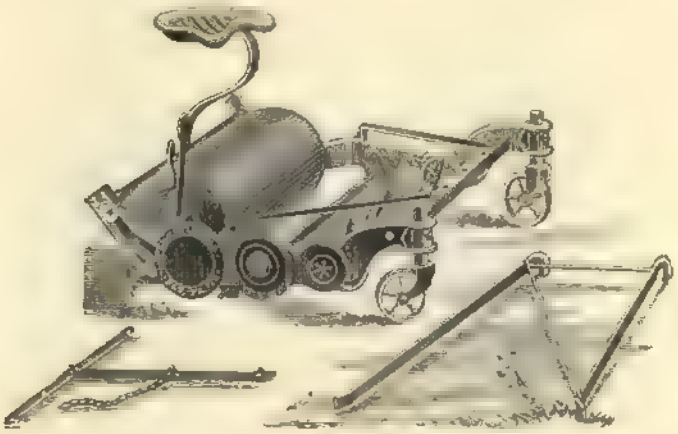
No. 2. To hold from ⅛ to 4-inch pipe.
Price 16 00

No. 3. To hold from 1½ to 6-inch pipe.
Price 24 00

No. 4. To hold from 6 to 12-inch pipe.
Price 60 00

Horse Lawn Mowers.

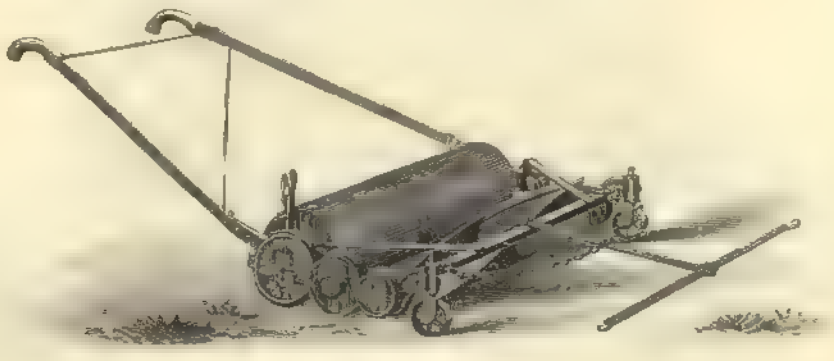
The "Pennsylvania," Open Cylinder.



30 inch Cut; Weight complete 396 lbs.

		Each
Pennsylvania, Open Cylinder, with Handles and Draft Irons,		$110.00
Seat Springs and Foot Board,	Extra,	8.00
Shafts,	Extra,	7.00

The "Pennsylvania," Closed Cylinder.

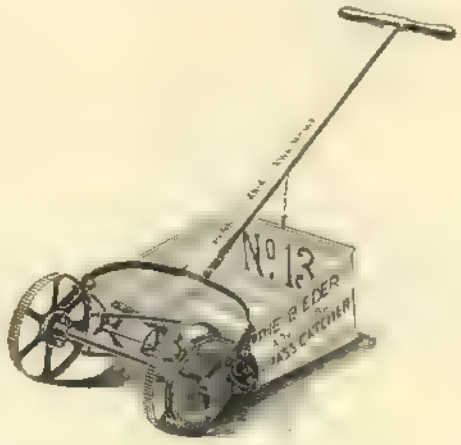


30 inch Cut; Weight complete 408 lbs.

Pennsylvania, Closed Cylinder, with Handles and Draft Irons.		100.00
Seat Springs and Foot Board,	Extra,	8.00
Shafts,	Extra,	7.00

Grass Catchers.

The Bieder Adjustable.

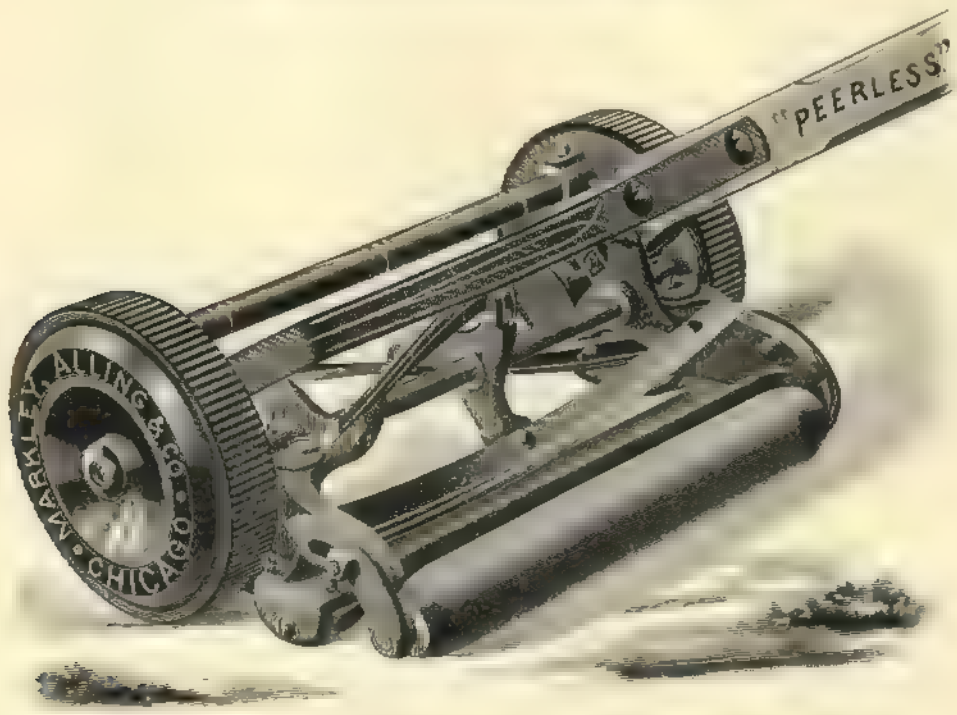


No. 13.

No.		Per Dozen
7.	Bieder Improved, will fit all Low Wheel Mowers, 12 to 18 inch Knife,	$13.00
13.	Bieder Improved, will fit all High Wheel Mowers, 15 to 21 inch Knife,	18.00

We fully Warrant this Catcher to give Entire Satisfaction to the purchaser.

The Peerless Lawn Mowers.

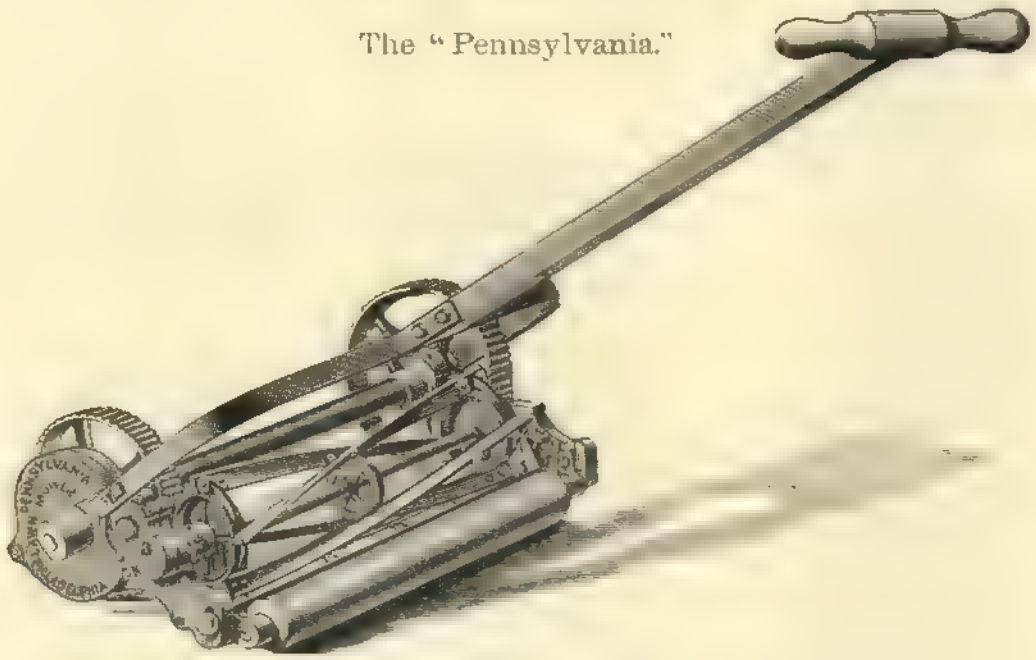


Adjustable Cutter Bar, Adjustable Roller, Adjustable Boxes, Positive Clutch.

Inches,	12	14	16
Each,	$5.00	5.50	6.00

Lawn Mowers.

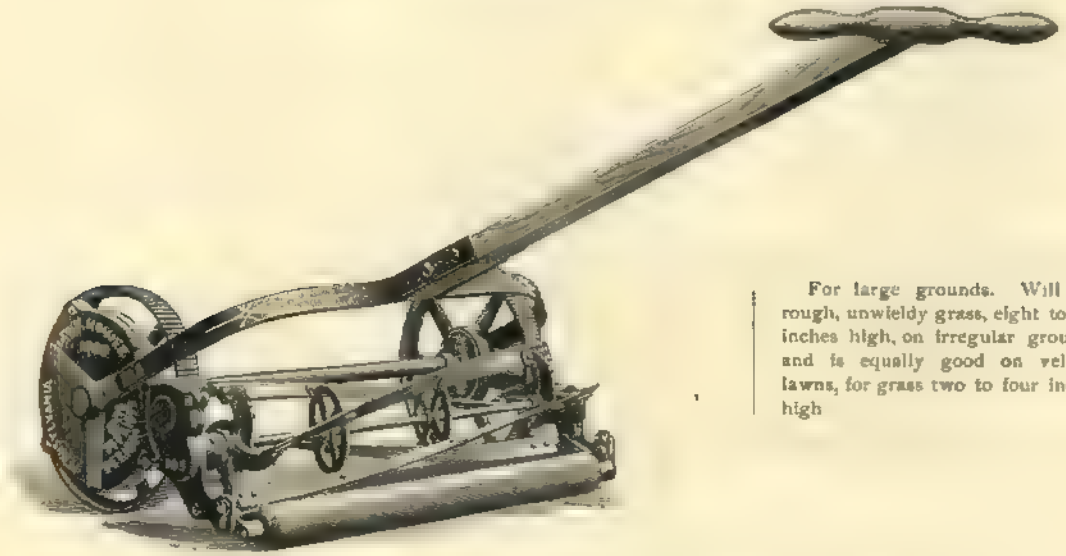
The "Pennsylvania."



Rear Cut, Open Cylinder. Height of Wheels, 8 inches.

Size of Cut, inches,	10	12	14	16	18
Each	$13.00	15.00	17.00	19.00	21 00

The "Pennsylvania" High Wheel.



For large grounds. Will cut rough, unwieldy grass, eight to ten inches high, on irregular grounds, and is equally good on velvety lawns, for grass two to four inches high

Rear Cut, Extra Large Open Cylinder, Height of Wheels, 10¾ inches.

Size of Cut, inches,	15	17	19	21
Each,	$25.00	28.00	31.00	34.00

Hay Knives.

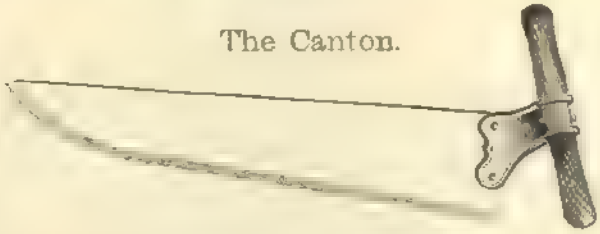
The Lightning.

Spear Point

PER DOZEN

Wadsworth's, Red Spear Point. Ground Sharp, . . $10.00
Half Dozen in a Box.

The Canton.



Canton, Sickle Edge, ... 10.00
One Dozen in a Box.

Heath's Patent.

Heath's Patent, ... 18.00
Extra Sections for Heath's Knives, . . 2.00

The Lightning.

Holts', Genuine Lightning, ... 12.00
One Dozen in a Box.

The Blizzard.

Holts', Blizzard, ... 11.00

SHEPARDSON'S LATH BINDER.

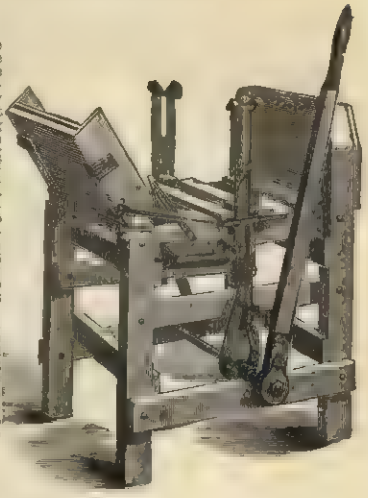
This is a Standard Machine of great importance to large manufacturers of Laths.

Price, adapted to 50 Laths . . $30 00
" " 100 " .. . 35 00

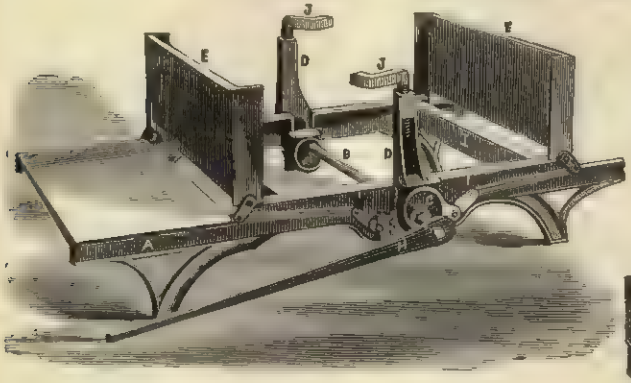
Prices named are with iron arms. If steel arms are wanted, add $5.00 net, either size.

PERKINS' IMPROVED SHINGLE PACKER.

Turning down the end-board to remove the bunch, spreads the jaws apart. The end-board has two heavy iron clasps to prevent sides from spreading when crowding in shingles. Back leg reaches to the top of Packer. Cast Iron Box for hammer and nails. We make these machines 20, 22 and 25 inches wide; adjustable for 16 or 18 inch shingles; 20 in., 25 courses, 22 inch, 22½ courses, 25 inch, 20 courses. Size, 2 ft. 8 in. by 2 ft. 6 in. Capacity, 20 to 50 M. per day. These Packers are made with either hand lever or foot lever; *not with both as shown in cut.* In ordering, state how preferred. Price of 20 in. Packer, $20 00. Larger size, $22 00 each.



DEXTER'S PATENT SHINGLE PRESS.

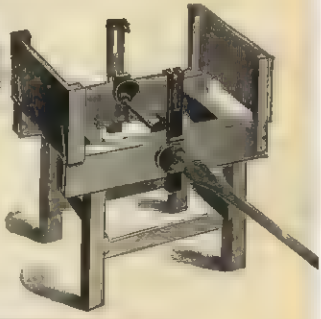


In this machine pressure is applied at both top and bottom of the bundle. Inexperienced hands and boys can use it with good results. It is more durable than wood-frame machines. Machines are made for 20-inch bands, and for shingles 16 and 18 inches long. In ordering, state length of shingle and width of band

Price.....$25 00

WOOD FRAME SHINGLE PRESS AND BUNCHER.

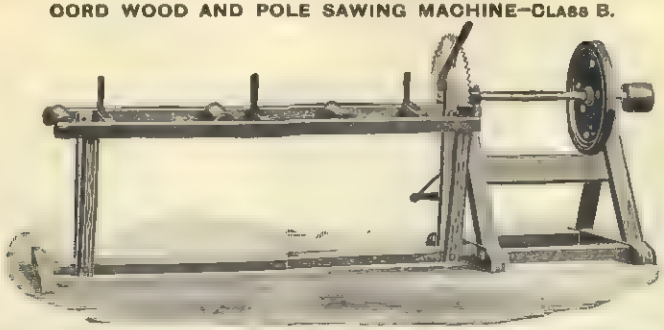
This is a good and efficient buncher at a low price. It presses equally from above and below. It is made to bunch 16 or 18-inch shingles with 20-inch bands. Price, $16.00.



SHINGLE BANDS.

We use the best iron only. There are no defective bands sent out. We carry them in stock 12 and 14 inches long, and of Nos. 24 and 25 iron. Put up in packages of 350 to 450 lbs Price per lb., 5 cents

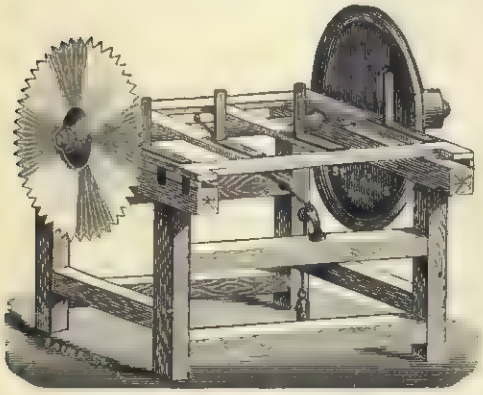
CORD WOOD AND POLE SAWING MACHINE—Class B.



It has a hand lever for holding down the stick being sawed. The tilting frame for holding the work is provided with concave rollers for the easy handling of long timber and poles. It swings lightly on pivoted bearings at bottom of frame, and is provided with a spring attachment to draw the frame back to position after cut is made. Is also a convenient cord wood saw. Weight, 400 lbs

Price with 24-inch saw, $48.00; with 26-inch saw, $50.00; with 28-inch saw, $52.00.

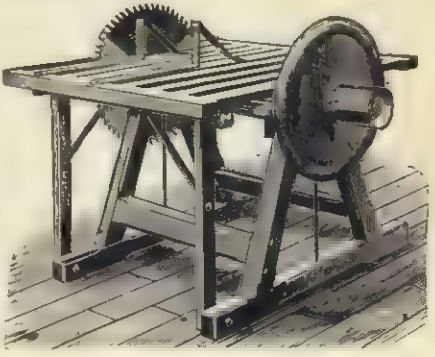
No. 1 CORD WOOD AND CROSS-CUTTING SAW.



This is a convenient and substantial machine of great utility for working up cord wood poles or any material suitable for firewood, or for cutting off boards and timbers required in fencing, bridge work, etc. It is adapted to horse or steam power. Pulley 6x6 inches, should run 1200 to 1500 per minute, with 24-inch saw on the mandrel. Weight, 350 lbs. Price, with 24-inch saw..... .....$45.00

No. 2 CORD WOOD AND CROSS-CUTTING SAW.

This is a familiar machine, useful about a mill or farm, adapted to a variety of purposes, but principally used for cutting cord wood into stove lengths. We have several kinds of horse-powers especially fitted to drive saws of this class. (Send for special circulars.) Driven by steam it has large capacity. Weight, 350 lbs. Mandrel Pulley 6x6 inches, should run 1000 to 1200 per minute with 24-inch saw. Price, with 24-inch saw, $40.00



STANDARD and FAULTLESS brands of 2 and 3 ply

READY ROOFING

Duplex Plaster Board

Send for samples and prices of all grades of roofing and building papers.

C. S. GARRETT & SON

12 and 14 Decatur Street PHILADELPHIA, PA.

F. S. HUTCHINSON CO

Paragon Self-Retaining Dumb Waiters

HAND AND BELT POWER ELEVATORS

Aldrich Building

32 Warren Street

NEW YORK

HAND ELEVATORS . . . .

Dumb Waiters and Hoists

The Philadelphia Dumb Waiter

is the best on the market

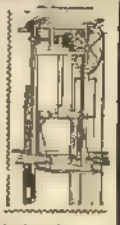
Liberal discounts to dealers

Send for Catalogue

Energy Mfg. Co., 1121 So. 13th Street Philadelphia

IMPROVED Quick and Easy Rising Steam, Electric and Hand Power . . .

ELEVATORS



SEND FOR CIRCULARS Kimball Bros., Council Bluffs, Iowa

. The Willer .

. . Sash Lift . .

Convenient, Simple, Effective.

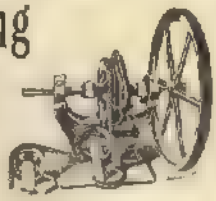
Applied to the side stiles of both lower and upper sash, shuts the sash tight by

Made of iron and bronze and in all finishes. Write us for special circular and price list

WILLER MANUFACTURING CO., MILWAUKEE WIS

THE COLUMBIA SAFETY

Self-Retaining Dumb Waiters



Sidewalk Elevators or Cellar Lifts and

... HOISTING MACHINERY

MANUFACTURED BY

SPEIDEL & ROEPER

Send for Catalogue. READING, PA.

World's Fair Award.

We are the only Steel Roofing Co. awarded Medal and Diploma for PATENT CAP ROOFING at World's Columbian Exposition. We are also large manufacturers of all styles of METAL ROOFING, SIDING, CEILING, ETC. Send for Catalogue and Price List. Mention this paper.

Sykes Iron & Steel Roofing Co., Chicago and Niles, O.

Manufacturers & Merchants Warehouse Co. CYCLE MATERIAL 24 W. WATER ST. CHICAGO

The Largest Bicycle Material and Sundry Manufacturing

AND SELLING COMBINATION IN EXISTENCE

We have a proposition to make and a catalogue for all interested in this line of business. Address

M.M.M.Co. 10 W. WATER ST. CHICAGO

THE GILBERT & BENNETT MFG. CO.

MANUFACTURE

Pearl Wire Cloth. Galvanized Steel Wire Cloth. Galvanized Wire Poultry Netting. "Cottage" Lawn and Garden Fencing. "G & B" Web Wire Fencing. Sieves, Riddles, Screens. Gilbert's Rival Ash Sifter. House Furnishing Wire Goods.

WIRE CLOTH, NETTING
FENCING, GATES, FENCING TOOLS
WIRE GOODS, WIRE WORK
STABLE FIXTURES, RAILINGS, WINDOW GUARDS, WIRE LATHING WITH HARMONY METAL FURRING

44 Cliff Street, NEW YORK
148 Lake Street, CHICAGO
Factories: GEORGETOWN, CONN. CHICAGO, ILL.
ESTABLISHED 1818

THE OLDEST AND LEADING MANUFACTURERS OF GALVANIZED WIRE GOODS IN AMERICA

THERE is MONEY for LIVE HARDWARE DEALERS IN

Tin Cash Trunks

which make a grand good

SIDE LINE

ALSO

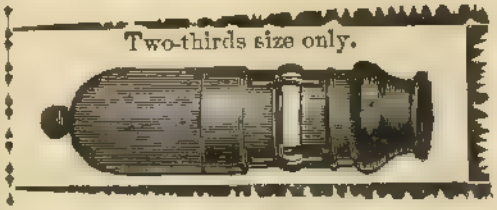
LETTER BOXES

FOR ALL FREE DELIVERY TOWNS

For particulars address

Merriam Mfg. Co.
DURHAM, CONN.

We make WHISTLES



THIS IS THE FAMOUS

"Surprise Whistle"

The Rubber Bulb on the end makes it capable of producing 1,000 different sounds. It's a *BIG SELLER.* We also make the

"Springfield" Single Tube and "Duplex" Bicycle Whistle

The easiest blowing and finest toned whistles in the world. They all retail for 25 cents each. We give a nice fat discount to dealers, and you surely miss a good thing if you don't sell them.

Address **HALL MFG. CO.**
Wallingford, Conn., U. S. A.

(Mention Hardware Dealers' Magazine)

SIDE VIEW

BOTTOM VIEW

COAL BASKETS

POUNDED ASH STANDARDS. Bamboo Filling. Iron Strapped. Most Durable Made. Right Prices.

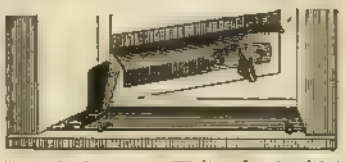
Baskets of all kinds

BALLOU BASKET CO., BELDING, MICH.

Branches. { 206 Canal St., New York. 248 So. Second St., Philadelphia.

Axtell Metallic Weather Strip

Ain't like others. These are tight. Retail at 50 ¢.

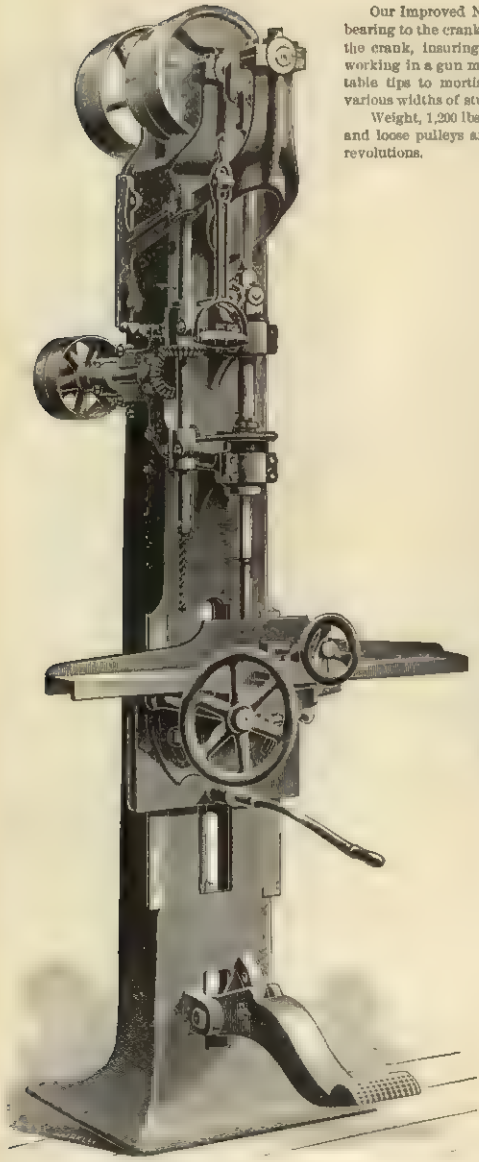


Why handle worthless wooden ones?

* * * in it for you. Write for booklet, "STORM INSURANCE"

E. I. CHURCH & CO.
WEST HANOVER MASS

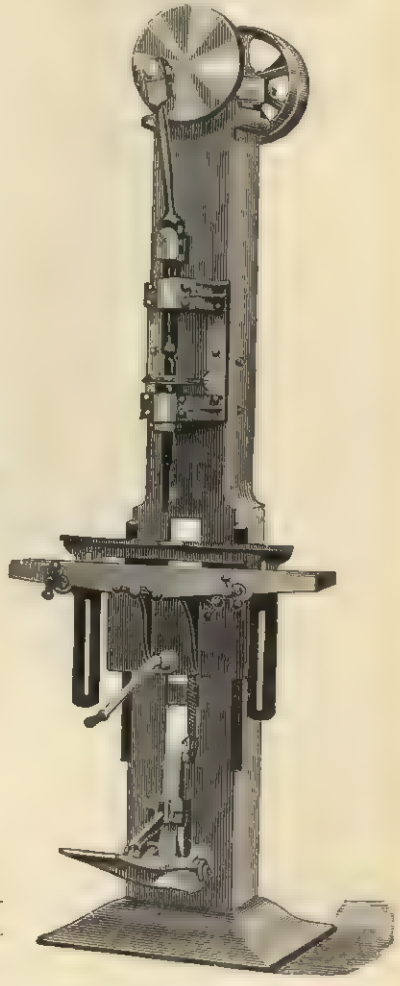
PHILADELPHIA IMPROVED MORTISERS.



Our Improved No. 2 Mortiser for doors, sashes and blinds, has an outside bearing to the crank shaft. The balance is carried in the pulley instead of at the crank, insuring a smooth running machine. The plunger is square, working in a gun metal split box, by which all wear can be taken up. The table tips to mortise any angle, and adjusts to and from the column for various widths of stuff, and drops fourteen inches.

Weight, 1,200 lbs. 5 chisels and necessary wrenches are furnished. Tight and loose pulleys are 12-inch diameter, 3-inch face, and should make 500 revolutions.

No. 3 CABINET MORTISER.

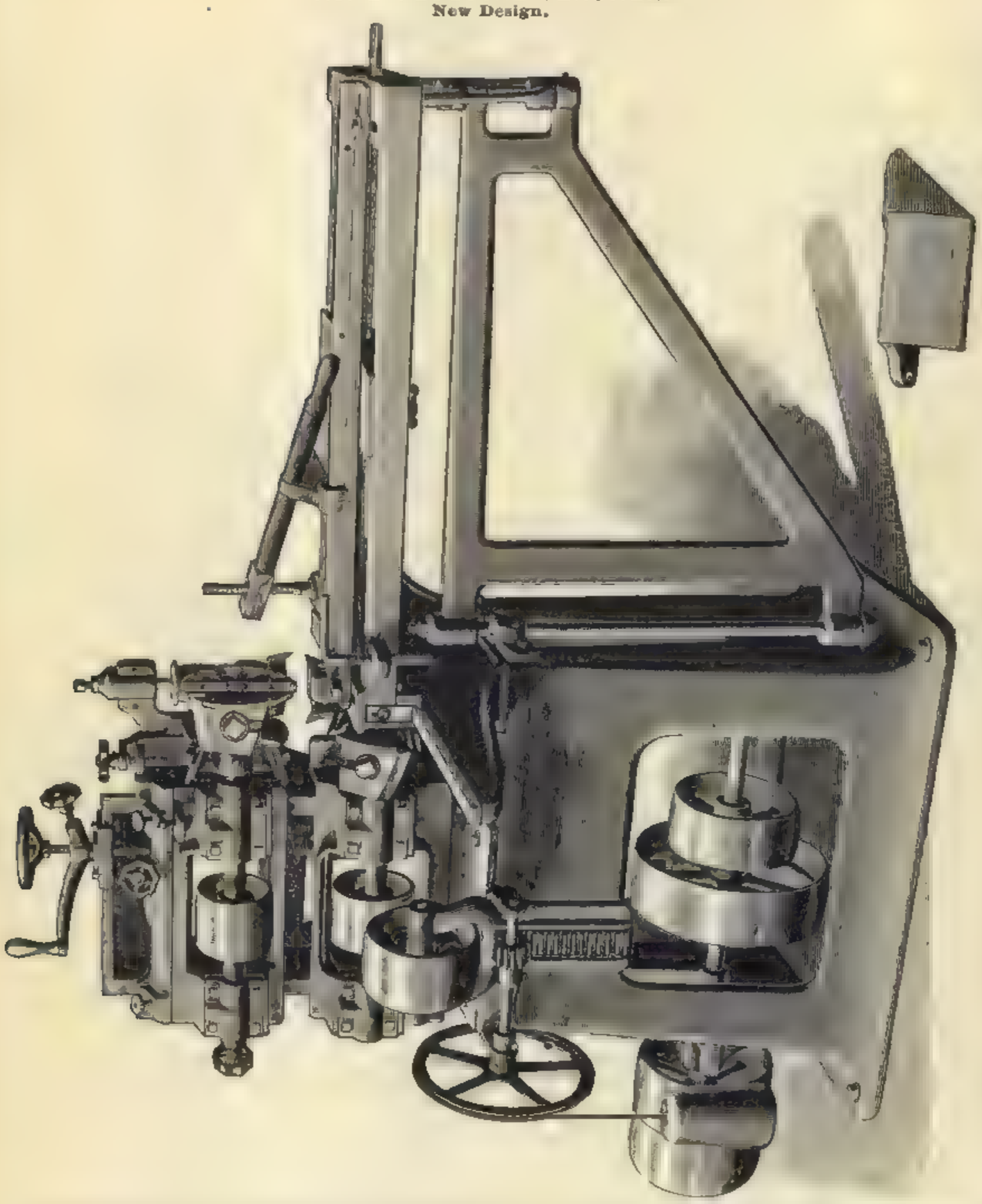


No. 2 Mortiser; weight, 1,700 lbs.; price	$200 00
Boring Attachment, Extra	30 00
Compound Table with Pinion Feed, Extra . . .	35 00

Our No. 3 Mortiser is built substantially in all its parts, but for lighter work than our No. 2. Weight, 1,000 lbs. Price, with clamp table and wheel feed, as shown in cut, $150.00.

No. 2 PEDESTAL TENONER.

New Design.



The Pedestal is cast in one piece. The machine will cut a tenon 6½ inches long, or by running through twice, will cut 9 inches long. The table is light and very strong, has extension bar and stops adjustable to any length of tenon. The swinging support at the outer end supports both sides of table; the table is gibbed to the way, and cannot by any possible accident be run into the cutters, or off the way. The top headstock is adjustable laterally, for variation of shoulder; the boxes carrying the top head spindle are connected, and slide is gibbed ways, the copes move with the headstocks and have both vertical and lateral adjustment. The belt that drives the cutter-head shafts is central between two boxes, and by patented device both heads can be raised or lowered together, without altering the thickness of the tenon, or either head can be adjusted without altering the position of the other. This is done by means of one screw. The movement is positive and cannot get out of order. Tight and loose pulleys, 9 inches in diameter, 4 inch-face, should make 900 revolutions per minute. Weight, 1,350 pounds.

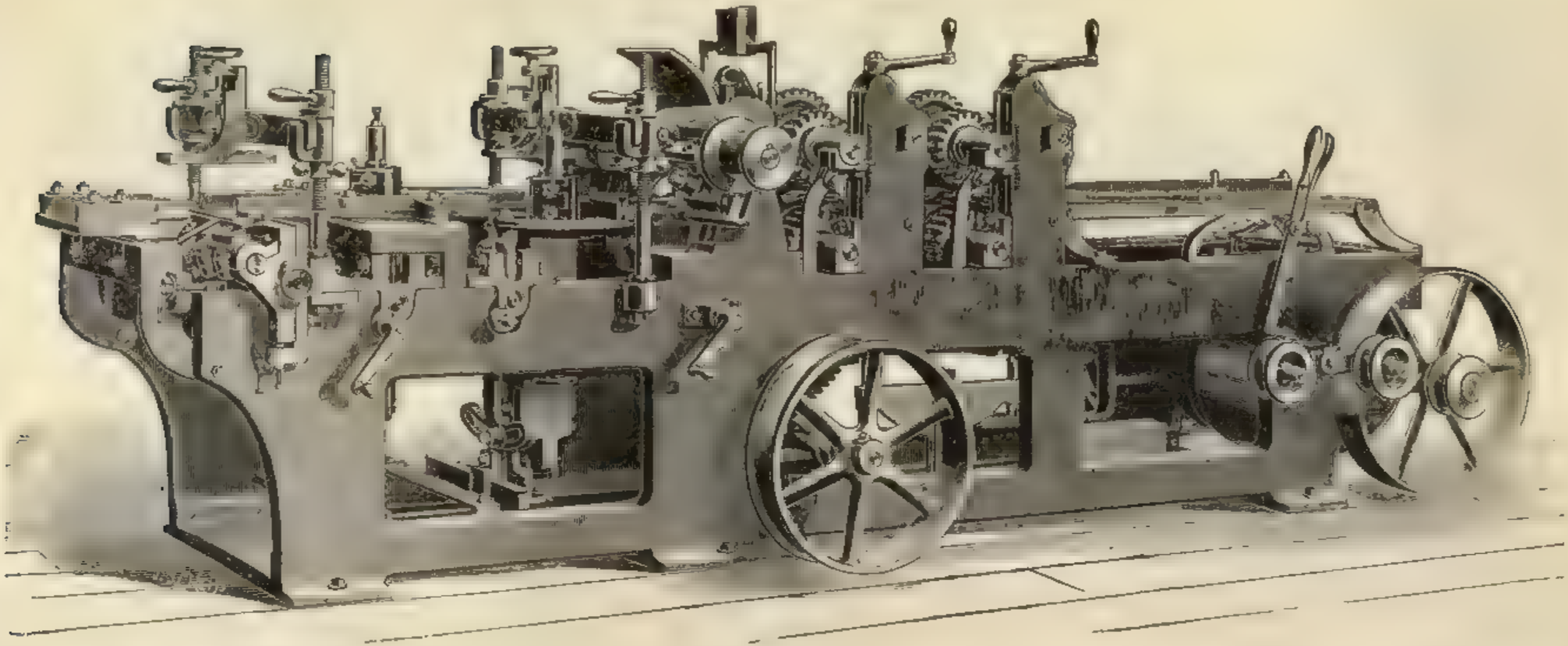
Price, with double heads and two copes, $240.00; double heads, without copes, $235.00.

Price, with single head and two copes, $225.00, single head and one cope, $215.00, single head, without cope, $200.00

Cut off saw attachment, extra, $15.00.

PHILADELPHIA INSIDE MOULDER, NEW DESIGN.

10 and 12 Inch Machine.



This cut represents a NEW INSIDE MOULDER, built in two sizes, to work ten and twelve inches wide, and up to six inches thick. The heads are forged steel, slotted on four sides; the side heads can be tipped to work at any angle, and adjusted to and from the work without disturbing the angle; the top and bottom cutter-heads have both vertical and lateral adjustment; the feed works consist of four seven inch feed rolls, geared at both ends, and very powerful. The machine is easily adjusted, convenient, and strictly first class.

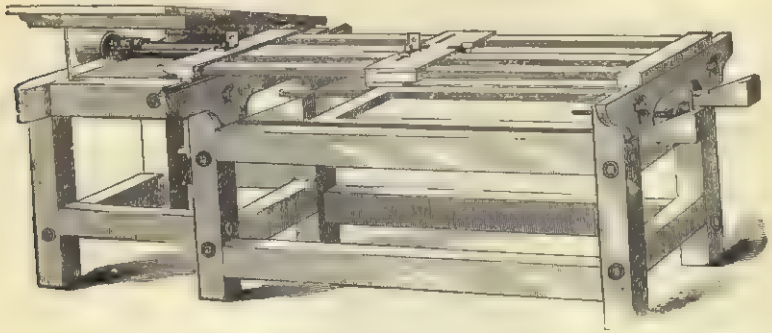
Length of machine 12 ft. 9 in.; weight 6,000 lbs.

Tight and loose pulley 14 in. diameter, 7 in. face—should make 700 revolutions per minute.

10 inch Inside Moulder to work four sides.....	$ 900 00
10 inch Moulder with extra bottom head to surface underside of lumber before passing through machine..	1,000 00
12 inch Moulder to work four sides.....	$1,150 00
12 inch Moulder with extra bottom head to surface underside of lumber before passing through machine.....	1,275 00

N. O. NELSON MFG. CO., ST. LOUIS.

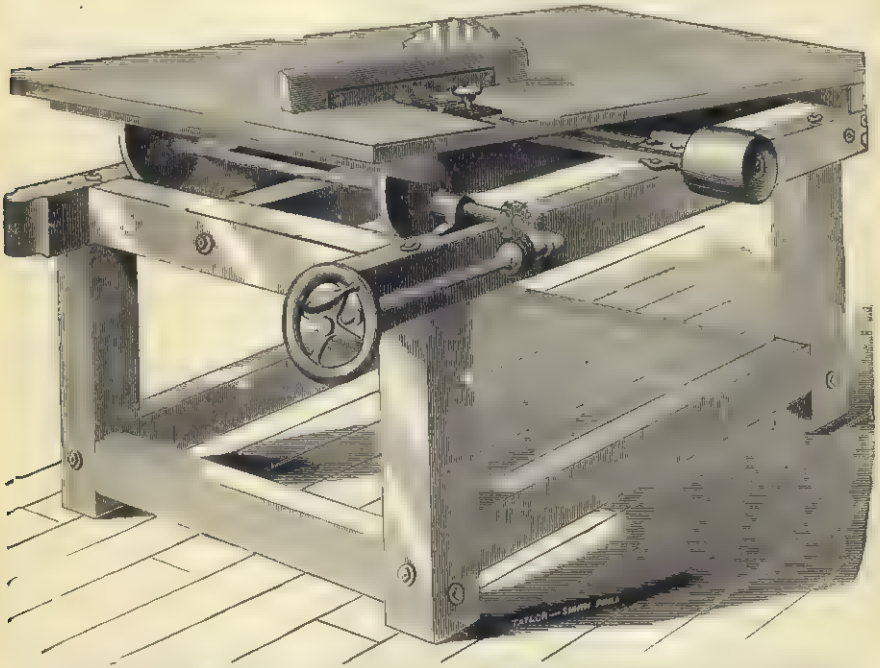
SASH AND DOOR CUT-OFF SAW.



This is well known as a very useful machine for cutting sash and door stuff, panels, or any work requiring to be cut square and to accurate lengths. The sliding carriage is provided with sliding gauges and stops, for different lengths, and is arranged to open at varying distances from the saw collars to admit the use of expanding dado heads for gaining. The sliding carriage and saw table top are raised and lowered together, by screw operating the sliding frame, having inclined or wedge-shaped blocks for working any desired depth of gains or grooves in plank, window frames and door stuff. The many uses to which this machine may be applied make it a necessary tool in every sash and door factory. Pulley on saw arbor, 4½ inches diameter, 5 inches face. Speed 2500 revolutions per minute. Saws extra at manufacturer's prices.

Price..... $85.00

RIP SAW TABLE.

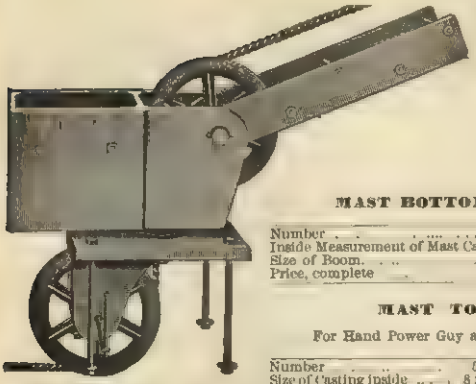


The saw mandrels are cast-steel, and run in connected Babbitted boxes, with pulleys either outside or inside of the frame as may be ordered. The top is hinged, and is elevated by raising screw to accommodate the stock to be sawed. A slitting gauge is furnished with each machine. Miter cross cut gauge extra. Saws furnished at manufacturers prices.

Price, No. 1, Table 2 feet 8 inches wide, 4 feet 3 inches long $45 00
Price, No. 2, Table 2 feet 11 inches wide; 4 feet 3 inches long..... 55 00
Price, No. 3, Table 3 feet wide, 5 feet 3 inches long..... 65.00

GUY DERRICK IRONS.

All Sheaves are for Wire Rope unless otherwise ordered.



Mast Bottom and Single Step, Fig. 244.

MAST BOTTOM—Fig. No. 244.

Number	5288	527	526	525
Inside Measurement of Mast Casting	10 in	12 in	14 in	16 in
Size of Boom	8 in	10 in.	12 in.	14 in.
Price, complete	$20 00	31 00	43 00	52 00

MAST TOP—Fig. 297.

For Hand Power Guy and Full Circle Derricks.

Number	588	587	586	585	584
Size of Casting inside	8 in	10 in	12 in	14 in	16 in.
Size of Gudgeon	2 in	2 in	2½ in	3 in	3½ in
Price, complete as per cut	$15 00	17 00	22 00	28 00	35 00

Mast Top, Fig. 297.

BOOM SHEAVE—Fig. 115.

With Steel Axle, Boxes and Bolts.

Number	792	793	794	795
Diameter of Sheave	11 in.	14 in.	16 in.	18 in.
Diameter of Rope	⅝ and ¾	⅝ and ¾	¾	¾ and 1
Price	$4 25	4 75	5 75	6 75

Boom Ring Fig. 116.

BOOM RING—Fig. 116.

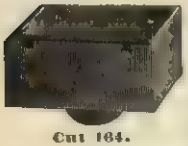
Inside Diameter.	Size of Iron.	Price with Links.	Price without Links.
7 inches.	⅝ x 3	$ 7 50	$ 6 00
8 inches.	⅝ x 3	7 50	6 00
9 inches.	¾ x 3	9 25	7 00
10 inches.	1 x 3	12 00	9 75
12 inches.	1 x 3	12 50	10 00
14 inches.	1 x 4	15 00	12 50

Boom Sheave Fig. 115.

PLAIN MAST BOTTOM—Fig. 164.

For Hand Power Derrick.

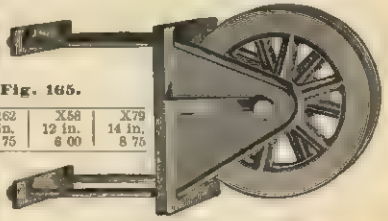
Number	X27	X28	X29	X30
Size of Mast	8 in	10 in	12 in.	14 in.
Price with Bolts	$3 30	4 00	5 50	6 50



Cut 164.

PLAIN STEP PLATE—Fig. 165.

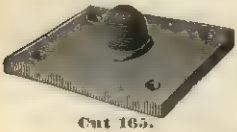
Number	X162	X162	X58	X79
Size of Mast	8 in	10 in.	12 in.	14 in.
Price with Bolts	$3 75	3 75	6 00	8 75



Mast Bracket—Fig. 367.

PLAIN BOOM SEAT, Fig. 166.

Number	X46	X45	X44
Width of Boom	8 in.	10 in.	12 in.
Price with Axle and Bolts	$4 50	7 50	10 50



Cut 165.

MAST BRACKET—Fig. 367.

With Sheaves, Axle and Bolts.

In ordering specify Single or Double Sheaves.

Number	765	766	767
Diameter of Sheave	11 in.	11 in.	16 in.
Size of Mast	10 in	12 or 14 in	16 in.
Price with Double Sheaves	$8 75	9 75	14 25
Price with Single Sheave	4 75	8 25	12 50

Fig. 166.

PILE DRIVER DERRICK IRONS.

Fig. 299.

HEAD BLOCK.

With Polished Grooves.

Diam. in.	10	12	14	16
Rope in.	1¼	1½	1⅝	1¾
Price each	$6 00	8 00	10 00	12 00

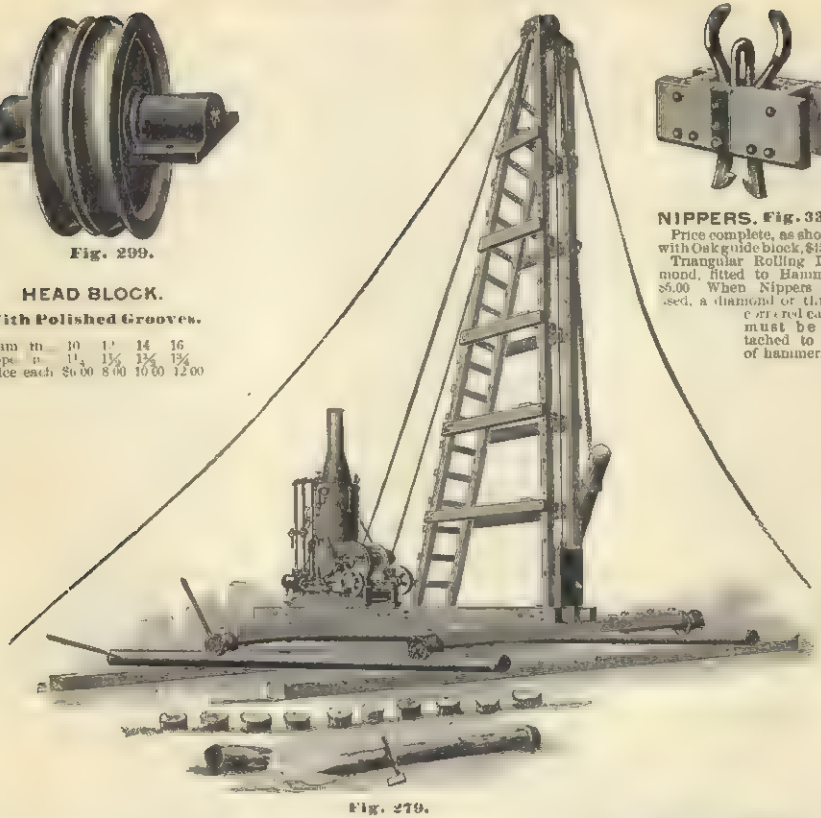


Fig. 279.

NIPPERS. Fig. 334.

Price complete, as shown with Oak guide block, $15 00

Triangular Rolling Diamond, fitted to Hammer, $5.00 When Nippers are used, a diamond or three cornered catch must be attached to top of hammer.

PILE DRIVER DERRICK.

In order to make rapid progress in pile driving, the rolling arrangements must be as perfect as possible. By examining the arrangement shown in Cut 279, it will be seen that the Derrick rests on rollers and spools, which allows it to be readily moved by means of bars in all directions. Double sheaves are located at the top; one for the hammer line, the other for hoisting piles into position. Estimates on application.

PILE DRIVER ROLLER SPOOL AND AXLE.

With Concave Surface Finished Smooth.

Fig. 300.

Axle 2½-inch square, iron. Spool, concaved to work on roller, 10 inches in diameter.

Price of Spool with Axle $20 00

PILE DRIVER HAMMER.

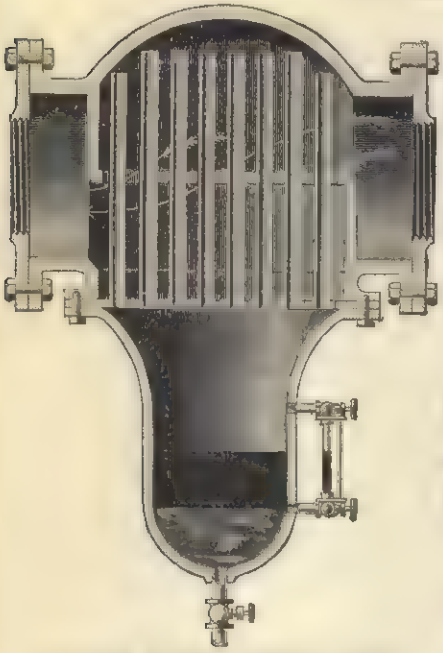
Fig. 301.

The cut shows the Hammer as used with a Friction Drum Engine. We can furnish a variety of patterns, suited to all kinds of drivers. Weight, 1,000 to 3,000 pounds. Per pound..... 4c.

KIELEY'S COMPOUND MULTI-TUBULAR OIL SEPARATOR.

For Horizontal or Vertical Pipe.

Cut shows Horizontal Pattern.



This Oil Separator contains more effective surface than any other in the market, due to the fact that both the inner and outer sides of the tubes, as well as the spiral coils of wire around them present effective surface. It is especially efficient in separating entrained water from live steam. Separators should be attached to horizontal pipe whenever circumstances will permit. In ordering, always say whether for horizontal or vertical pipe.

PRICES AND DIMENSIONS.

Size of separator	1¼	1½	2	2½	3	4	5
Diameter of Flanges							
Dis. from face to face of flgs							
Price	$20	25	30	35	45	64	85

Size of Separator	6	7	8	9	10	12
Diameter of Flanges						
Distance from face to face of flgs						
Price	$104	120	145	165	200	250

LYMAN'S PATENT EXHAUST HEAD.

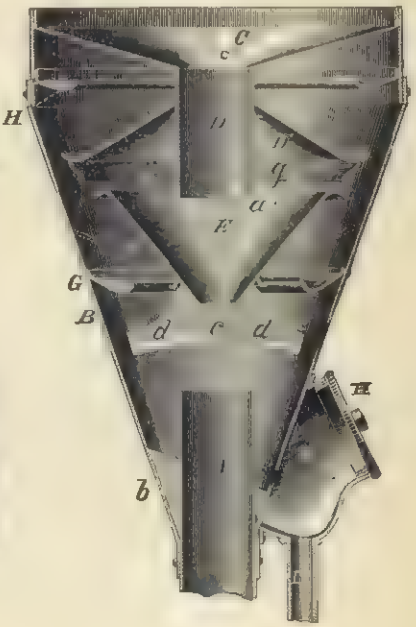
For End of Pipe Above Roof.

Steam escapes dry; no back pressure; condensation can be carried to nearest downspout; brass hand-hole gives easy access to head, should drip become clogged; brass expansion ring furnished with each head, so as to connect drip as an expansion joint, not rigid. Are a great benefit to engines, and will completely stop the emission of water and grease from outlet of exhaust pipe.

Pipe Size, Inches.	Price.	Drip outlet to head. Inches.	First Size of Drip reduced to inches.	Pipe Size, Inches.	Price.	Drip outlet to head. Inches	First Size of Drip reduced to inches.
1 or 1¼	$20 00	1¼	¾	10	$125 00	2½	1¼ or 2
2 or 2½	25 00	1¼	¾ or 1	11 or 12	150 00	3	1½ or 2
3 or 3½	30 00	1½	¾ or 1	13	175 00	3	2 or 2½
4 or 4½	40 00	1½	1	14	200 00	3	2 or 2½
5	50 00	2	1 or 1¼	15	235 00	3½	2½ or 3
6	60 00	2	1 or 1¼	16	250 00	3½	2½ or 3
7	75 00	2	1 or 1¼	17	270 00	4	3 or 3½
8	90 00	2½	1¼ or 1½	18	300 00	4	3 or 3½
9	105 00	2½	1¼ or 1½				

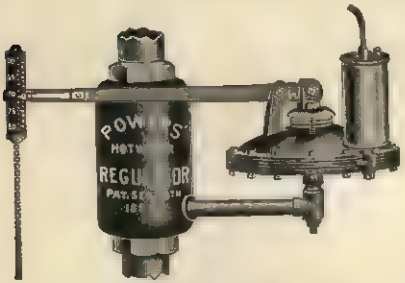
Prices 20 to 48 Inch on Application.

4½ pipe connections and smaller are threaded. Larger sizes flanged.



POWERS' DRAFT REGULATORS.

For Steam and Hot Water Boilers, and Hot Air Furnaces.



No. 4, For Hot Water Boilers.

No. 3, For Steam Boilers.

The Powers' Regulator consists of an apparatus which is attached to hot water and steam boilers, and set so as to maintain a uniform degree of heat throughout the building. With the regulator is furnished a thermostat, which is a handsome disc to be hung on the wall of one of the principal living rooms, and so connected with the regulator in basement that when the temperature in the room rises a single degree above the point for which the regulator is adjusted, the expansion in the disc communicates pressure to the diaphram in the regulator at the boiler, and a lever is moved, cutting off the draft. When the temperature in the living rooms falls below the desired point, the action of the thermostat opens up the regulator, increases the draft, and livens up the fire. The device is a great coal saver, and if the fire is kept up, the house cannot become overheated, neither can it become too cold.

No. 2 Regulator with Thermostat, for hot air system	$40 00
No. 3 Regulator with Thermostat, for low pressure steam system	45 00
No. 4 Regulator with Thermostat, for hot water system	50 00

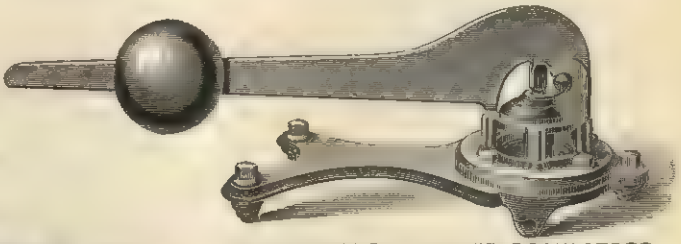
CLARK'S PATENT DAMPER REGULATOR.

PRICES.

No. 1, for boilers of 5-horse power and under, each ... $10 00

No. 2, for boilers of 20-horse power and under, each ... $15 00

No. 3, for boilers of 30 to 500-horse power, each ... $25 00



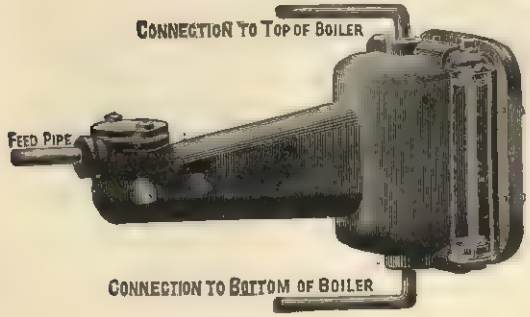
LOW PRESSURE DAMPER REGULATORS,

For Portable Steam Heating Boilers.

Price, complete, with lever and weight	$5 00
Extra rubber for same	1 00

AUTOMATIC BOILER FEEDER.

For Low Pressure Boiler.



For feeding water automatically to steam heating boilers and other low pressure steam generators, for feed cooking, chemical and mechanical operations, etc. Adapted to all situations where water pressure exceeds that carried in boiler. Will maintain uniform stage of water in boiler without attention or care of person in charge. Operates by a float ball and lever valve, and is perfectly automatic and reliable.

Price, each ... $20 00

HARDWARE MECHANICS' TOOLS DEALERS

New Process Twist Drill Co.

Manufacturers of TWIST DRILLS OF EVERY DESCRIPTION

Have you seen our NEW SOLID BIT STOCK DRILL!

All sizes larger than 4-32 are made SOLID. They cannot work loose in shank

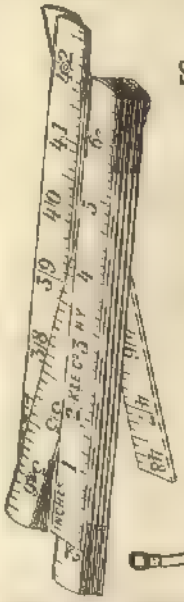
Write us for catalogue.

NEW PROCESS TWIST DRILL CO., Taunton, Mass.

Keuffel & Esser Co.

NEW YORK

Branches at Chicago and St. Louis



Drawing Materials AND Surveying Instruments

K & E Pocket Rules 2 to 8 feet long, with patent springs, plain and extra flexible. K. & E. Steel Spring Joint Rules, 1, 2, 3 feet long

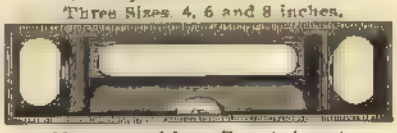
Excelsior Measuring Tapes

We make the largest variety of Steel, Woven and Pocket Tapes. Quality unapproached. All Tapes warranted

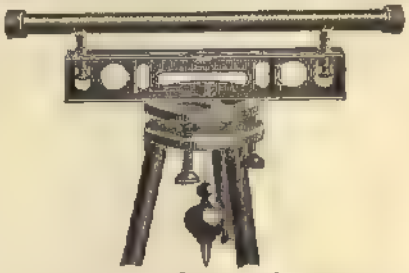
CATALOGUE AND PRICE LISTS ON APPLICATION

IRON LEVELS

New Adjustable Bench Levels
Three Sizes, 4, 6 and 8 inches.



Machinists' Iron Bench Levels
Sizes 6, 9, 12, 18 and 24 inches, with Double Plumb.

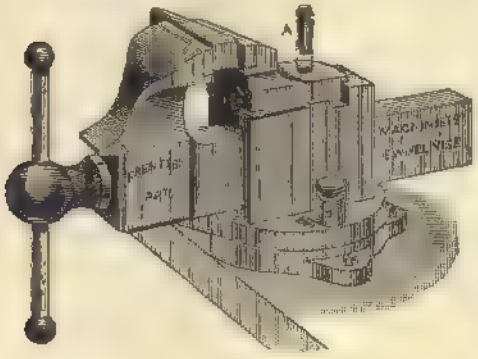


Leveling and Squaring Instrument.

SEND FOR FULL LIST AND TRADE PRICES

C. F. RICHARDSON & SON

ATHOL, MASS.



Prentiss Vise Co.

44 Barclay St., New York

Leaders for 20 Years

Manufacturers of

Prentiss Adjustable Jaw Vises
Prentiss Rapid Transit Vises
Prentiss Bull-Dog Vises
Prentiss Gipsy (Farmers') Vises
Peerless Swivel Pipe Grips for Vises
Eclipse Pipe Attachments for Wrenches

Send for Circulars

Star Lathes

Foot power
Screw cutting
Automatic
Cross Feed

9 and 12 inch Swing.

New Designs. Novel Features.

Send for Catalogue B.

SENECA FALLS MFG. COMPANY,
327 Water St., Seneca Falls, N.Y.

DON'T BURN YOUR FINGERS.

But use the Standard Asbestos

FLAT IRON HOLDER.

ALWAYS COOL

Chicago Rotary Biscuit Cutters and other Hardware Specialties. Send for catalogue.

PAT. MAY 31, 1892. *ADAMS SPECIALTY MFG. CO*

58 72d PLACE - - - - - CHICAGO, ILL.

LeCount's Heavy Steel Clamps

Manufactured by

WM. G. LeCOUNT

(*Successor to C. W. LeCount*)

South Norwalk, Conn.

Send for Catalogue D for full line of Machinists' Tools.

Wright & Colton Wire Cloth Co.

Manufacturers of

WIRE, WIRE CLOTH and NETTING

Rust Proof Window Screen Wire Cloth, Galvanized Steel Wire Cloth, Galvanized Poultry Netting, Farm Fencing, Wire Lathing, Coal and Sand Screens, Riddles, Sieves and Staples, Tinned Mattress Wire, Galvanized Clothes Line Wire, Pin and Shoe Button Wire, Crain and Staple Wire

Office and Factories, Worcester, Mass

Branch 179 and 181 Lake St., Chicago, Ill.

WOOD MANTELS

The Ironton Wood Mantel Co.

Manufacturers for the Trade

IRONTON, - OHIO

WE are the largest mfrs of lined SPARK GUARDS

in the U. S. Write for prices

Dow Wire Works Co.

LOUISVILLE, KY.

GET THE BEST!

THE STAR COIL SPRING SHAFT SUPPORT AND ANTI-RATTLER.

SELLS AT SIGHT!

Fast selling, always gives satisfaction. No weight on horse. Worth twice the cost for convenience in hitching up. Agents wanted. Circulars free. Order sample. Price 1 50. State rights for sale.

THE DECATUR SHAFT SUPPORT CO.
Decatur, Ill.

FOR TIGHT FASTENINGS

of anything to stone or brick, try

EXPANSION BOLTS

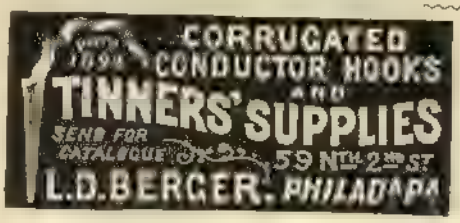
Absolutely safe and simple. In 20 different styles. Write for Catalogue.

STEWARD & ROMAINE MFG. CO.
Sole Mfrs., Philadelphia.

Perfection Dinner Pail

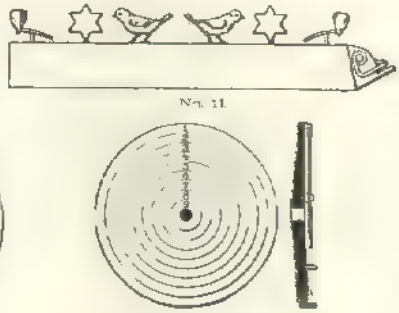
The only Dinner Pail with a lamp in the cover—out of the way. Alcohol, Kerosene or Lard Oil. Dinner and coffee warmed in a few minutes on a cold day. Workingmen prefer it every time. A great seller. Made of best tin. Patented May 15, 1894. Manufactured and sold by THE PATENT NOVELTY MFG. CO., Saginaw, Mich.

Write for Prices.



Standard Gallery Targets.

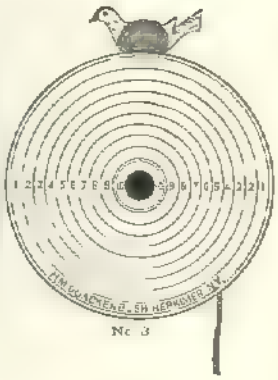
Nos. 21 and 22.



No. 11.

Nos. 19 and 19½.

No. 12.



No. 3

NO.	DESCRIPTION.	EACH.
19½	Plain Round, ⅜ inch Iron, 12 inches Diameter, Assorted Sizes, Open Bull's Eye, for BB Caps, ringing Gong when Bull's Eye is hit. Self setting,	$1 50
19	Same as No. 19½, ⅜ inch Iron, with Open Bull's Eye, for 22-100 Cartridges,	1 85
12	Square, Heavy Iron, Creedmoor Pattern, 200 Yards Target, reduced to 25 Yards Practice. This Target can be used in shooting any match with Rifles or Pistols. The rings, it will be noticed, can be counted with either 5, 10 or 12, as Bull's Eye, so that any of the popular methods may be used. 8x12, ¼ thick, 1 inch Bull's Eye,	2 65
22	Round, 12 inch Diameter, Entirely of Heavy Iron, for 22-100 Cartridges, Comic Figure rising and ringing Gong when Bull's Eye is hit. Reset by Rope from Stand,	3 00
21	Same as No. 22, but Image of Light Iron, for BB Caps,	2 75
11x5	Entirely of Heavy Iron, for 22-100 Cartridges, Birds, Stars and Pipes falling back when hit. Six objects to shoot at; made for out-door shooting, reset by rope from stand,	4 50
11x8	Same as No. 11x8, but larger, with Eight Objects to shoot at,	6 00

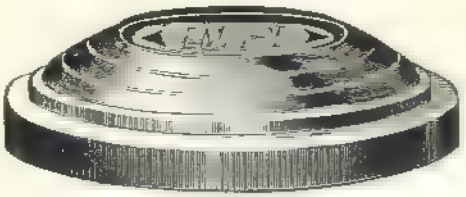
Our targets for out door shooting gallery practice, are made of fine, extra heavy, close grained gray iron, neatly painted all over, and are absolutely the best that can be made for the purpose. The new model patent rings, owing to their peculiar shape, are not liable to be repeatedly struck in one place, and are superior to any goods of the kind now on the market. Each ring is complete in itself and is screwed to swing for which purpose intended. They can be used as stationary or swinging targets. A complete outfit for shooting gallery can be set up in a hall, and our Bull's Eyes may be had of the following sizes: ¾, ⅞, 1, 1¼ and 2 inches in diameter. The Gongs on 12 inch Targets are *eight* inches, and on the 18 inch Targets are *twelve* inches in diameter. They are made of specially rolled and tempered steel, for this particular use, and are larger and heavier than any heretofore used. Cut shows sectional view of patent rings and heavy carriage.

H. M. Quackenbush's No. 3 Steel Bell Image Target.

NO.	DESCRIPTION.	EACH.
3	H. M. Quackenbush's Steel Bell Image Target, 12 inches in diameter, weight 11½ pounds,	$4 25

This Steel Target is adapted for 22 Caliber Rifles, and is a very interesting one to shoot at; it rings a bell vigorously and throws up a bird when the Bull's Eye is hit. The face is Steel, and graduated from 1 to 10. The whole is a neat durable affair, well worth the money.

Flying Targets and Traps.

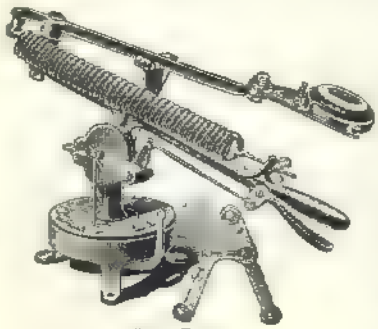


Empire Targets can be thrown successfully from any of the principal traps without change of carriers

The Empire Target combines in the highest degree all the qualities that go to make a perfect article Made from a new composition, a Target is produced that is perfection in shape, size and finish, and for flying trapping and breaking qualities cannot be surpassed

Flying Targets.

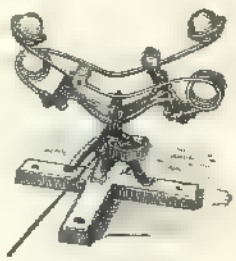
DESCRIPTION.	PER 1000.
Empire Flying Targets, Packed 500 in a Barrel,	$10 00
Plain Amber Glass Balls, Packed 284 in a Barrel,	12 00



Empire Trap.

The Empire Trap is the latest and most complete device for throwing Targets. One of its principal features of excellence is the arrangement for easily and instantly changing flight of the Target to any direction by simply gripping the handle on end of frame of Trap and moving as desired

Another feature found in no other Trap that can be used for expert, or "known trap and unknown angle" shooting, is the central trigger pull, which allows the Trap to be changed from throwing in one direction to another without interfering with the pulling arrangement at the score

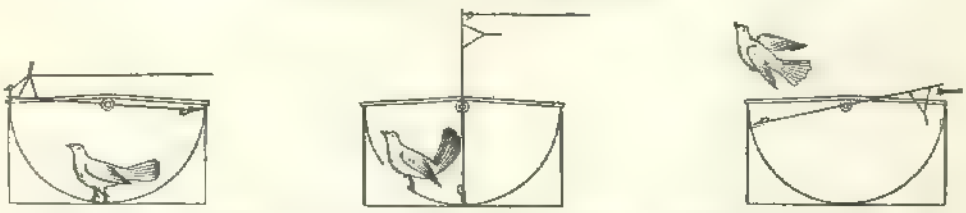


Moles' Trap.

Traps.

DESCRIPTION.	EACH.
Empire Trap,	$ 6 00
Empire Expert Trap,	10 00
Moles' Single Glass Ball Trap,	6 00

Rudolph's Live Pigeon Trap.



DESCRIPTION.	EACH.
Rudolph's Improved Ground Trap for Live Pigeon Matches, made of heavy galvanized sheet iron, and so made that they can be placed in a row or circle and planted firmly in the ground out of sight,	$8 00

Derby Adjustable Planes.

NO.	DESCRIPTION.	EACH
21	Smooth Plane, 7½ in. long, 1¾ in. Cutter	$2 00
22	Smooth Plane, 8 in. long, 1¾ in. Cutter	2 50
23	Smooth Plane, 9 in. long, 1¾ in. Cutter,	3 00
24	Smooth Plane, 5 in. long, 2 in. Cutter,	2 00
35	Handle Smooth, 9 in. long, 2 in. Cutter,	2 50
38	Handle Smooth, 10 in. long, 2⅜ in. Cutter,	2 75

ONE IN A PACKAGE.

NO.	DESCRIPTION	EACH
26	Jack Plane, 15 in. long, 2 in. Cutter,	$2 25
27	Jack Plane, 15 in. long, 2½ in. Cutter,	2 50
28	Fore Plane, 18 in. long, 2⅝ in. Cutter,	2 75
29	Fore Plane, 20 in. long, 2⅝ in. Cutter,	2 75
30	Jointer Plane, 22 in. long, 2⅝ in. Cutter,	3 00
31	Jointer Plane, 24 in. long, 2⅝ in. Cutter,	3 00
32	Jointer Plane, 26 in. long, 2⅝ in. Cutter,	3 25
33	Jointer Plane, 28 in. long, 2⅝ in. Cutter,	3 25
34	Jointer Plane, 30 in. long, 2⅝ in. Cutter,	3 50

ONE IN A PACKAGE.

NO.	DESCRIPTION.	EACH
3	Smooth Plane, 8 in. long, 1¾ in. Cutter,	$3 00
4	Smooth Plane, 9 in. long, 2 in. Cutter,	3 25
4½	Smooth Plane, 10 in. long, 2⅜ in. Cutter, Adjustable Front,	3 75

ONE IN A BOX.

NO.	DESCRIPTION	EACH
5	Jack Plane, 14 in. long, 2 in. Cutter,	$3 75
6	Fore Plane, 18 in. long, 2⅝ in. Cutter,	4 75
7	Jointer Plane, 22 in. long, 2⅝ in. Cutter,	5 50
8	Jointer Plane, 24 in. long, 2⅝ in. Cutter,	6 50

ONE IN A BOX.

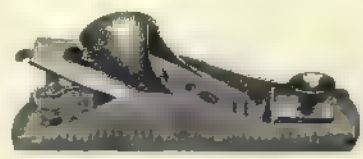
Derby Block Planes.

NO.	DESCRIPTION	EACH
101	Toy Plane, 3 in. long, 1 in. Cutter	$0 20
102	Block Plane, 5½ in. long, 1½ in. Cutter,	40
116	Block Plane, 7 in. long, 1¾ in. Cutter,	50

NO. 101 SIX, OTHERS ONE IN A BOX.

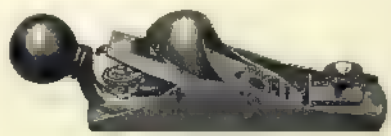
NO.	DESCRIPTION.	EACH.
103	Adjustable Block, 5½ in. long, 1¾ in. Cutter,	$0 60
120	Adjustable Block, 7 in. long, 1¾ in. Cutter,	85

ONE IN A BOX.



NO.	DESCRIPTION.	EACH.
9½	Block Plane, 6 in. long, 1¾ in. Cutter,	$1 50
15	Block Plane, 7 in. long, 1¾ in. Cutter,	1 60

ONE IN A BOX.

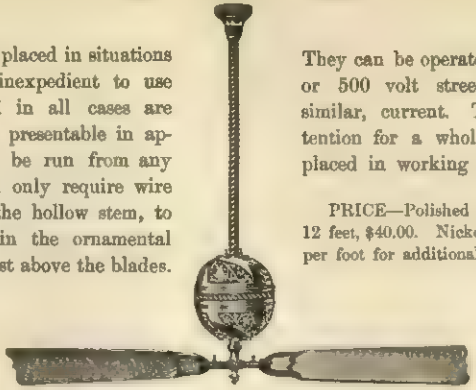


NO.	DESCRIPTION	EACH.
9½	Wood Handle, 6 in. long 1¾ in. Cutter,	$1 75

ONE IN A BOX.

SELF-IMPELLED ELECTRIC CEILING FANS.

These Fans can be placed in situations where it would be inexpedient to use belt-driven fans, and in all cases are more convenient and presentable in appearance. They can be run from any constant current, and only require wire connection, through the hollow stem, to the motor enclosed in the ornamental bulb shown in cut, just above the blades.



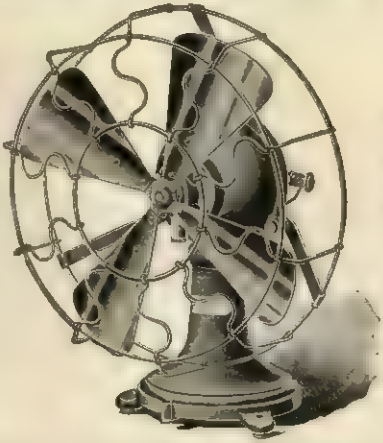
They can be operated in series on a 220 or 500 volt street railway, or other similar, current. They require no attention for a whole season after being placed in working order.

PRICE—Polished Brass, for ceilings up to 12 feet, $40.00. Nickeled, $42.00. Add $2.00 per foot for additional height.

ELECTRIC COUNTER AND DESK FAN.

Where a constant electric current of any kind is available this improved type of counter or desk fan is the cheapest and best means of producing a circulation of air, and cooling the temperature in apartments. It is especially adapted to residence use, where wires have been run for lighting.

It consumes about the same current as a 16 c. p. incandescent lamp, and may be set in any convenient place, upon a table, desk, or mantel, the same as a portable electric light.



The bearings are self-oiling and will run for months without attention. The 12-inch fans use one-twelfth H. P.; the 16-inch, one-sixth H. P. of current.

Price of 12-inch fan, with brass blades, Japanned stand $30 00

Price of 16-inch fan, with brass blades, Japanned stand 40 00

HANGERS AND FIXTURES FOR BELT-DRIVEN FANS.

Fig. 5.
Price, Japanned, $2 40.
Price, Bronzed, 2 15.

Fig. 6.
Price, Japanned, $2 75.
Price, Bronzed, 2 50.

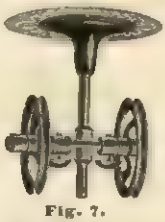


Fig. 7.
Price, Japanned, $3 25.
Price, Bronzed, 3 00.

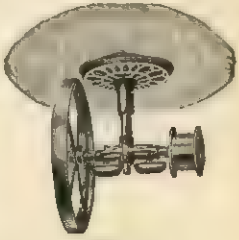


Fig. 10.
Price, Japanned, $15 00.
Price, Bronzed, 12 00.

SHAFTING COUPLINGS AND COLLARS.

¾-INCH STEEL SHAFT, in full lengths, 10 to 16 feet per foot, 1c COUPLINGS, for ¾-inch Shaft, each 60c COLLARS, for ¾-inch Shaft, each, 30c.

GROOVED PULLEYS.

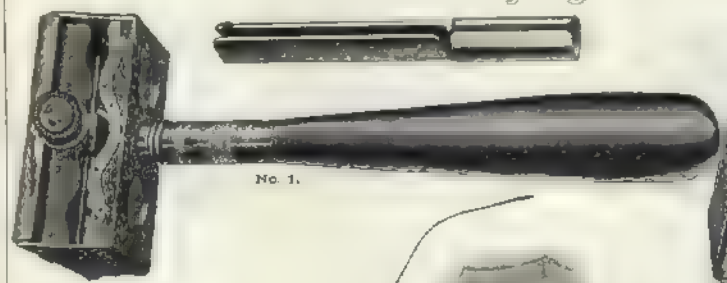
Diameter, inches	4	5	6	7	8	10	12	14
Price, each	$0 55	65	75	90	1 10	1 35	1 70	2 20

For Flat Pulleys, see "Wood or Iron Pulley" Lists pages 365 to 372. For Round and Flat Belting, see page 268.

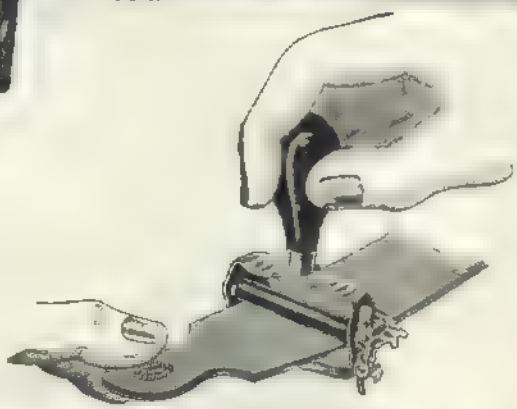
Razor Sets.

NO.	DESCRIPTION	PER SET
250	Seven-Day Razor Set, Full Hollow Ground White Handle Razors,	$ 90

Fox Safety Razors.



No. 1.



Strop and Stropping Machine

No. 12

NO.	DESCRIPTION	PER DOZEN	DESCRIPTION	PER DOZEN
1	Safety Razor,	$22 50	Extra Blades,	$1 [illegible]
12	Safety Razor, with Stropping Machine and Strop,	45 00	Strops,	7 50
			Stropping Machines,	15 00

The New Quick Shot Powder.

Superior to Any Other Brand of Powder Made.

Quick Shot.

From this time forth the *Quick Shot* is the only brand of sporting powder manufactured by the King Powder Co.

The reasons for so many different grades of Powder is now practically done away with. The finest grained powder is now so uniformly mixed that a powder can be made to suit any gun equally well. A test for all kinds of work can now be had as good.

With the very latest improved machinery the new method and care which enter into the composition of our powder, combined with a thoroughly modern powder plant, make it no longer difficult to turn out at any and all times a perfectly prime article. Manufacturers confining their efforts to one single brand of powder will be much more likely to make a success than if they give their attention to the various grades of several makes.

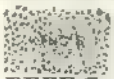
In confining our attention to a high sporting powder the King Powder Co. have decided to adopt the Quick Shot brand.

It is our firm belief the Quick Shot is the best powder now made. In every experiment it has proven to be the quickest, strongest, cleanest with so much less volume of smoke and foul gas that it might be ranked with those of the brands of the so-called smokeless powder. It is possible to make up from any of powder fitted for every kind of shooting. The King Powder Co. have succeeded in the very highest degree.

Our prices will always be right.

WRITE FOR PRICE LIST.

Quick Shot for the Field, Trap, Rifle and Every Class of Wing Shooting.



FFFF G.
Quick Shot.

FFF G.
Quick Shot.

FF G.
Quick Shot.

F G.
Quick Shot.

Quick Shot Powder is Put Up in the Following Manner:

Kegs, - - - -	25 lbs.
Half Kegs, - - -	12½ lbs.
Quarter Kegs, - - - -	6¼ lbs.
Cases 1 lb. Canisters, -	24 in a case
Cases ½ lb. Canisters, - -	24 in a case

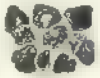
Write for Prices.

King's Blasting Powder.

In 25 Pound Kegs.

FFF.
Screening ... and Coal.

FF.
For ... and ...



F.
For ... and ... gens ...

C.
For Ex... under ... quarrying ...

CC.
For ... by ...

CCC.
For ... and very heavy blasting.

WRITE FOR PRICES IN 500 KEG LOTS AND IN 500 OR CARLOAD LOTS.

Powder

Schultze Powder.

The Original and Best of Smokeless Powders.

This Powder known throughout the world, as the oldest and is considered by competent judges the most improved Smokeless Powder made. It has no Gum Cotton [illegible] Potassium in its composition, and for high velocity, reduced recoil, reduced fouling, greater penetration and more regular pattern it has no equal.

Clean, Safe and Regular in Action

Schultze Powder.

This Powder May Not be Rammed. Charge for 12 Bore, [illegible] 10 Bore, 4 Drams.

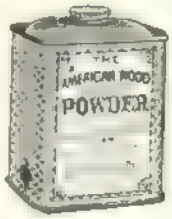
DESCRIPTION.	EACH.
1 Pound Cans,	$0 85
10 Pound Drums,	8 25

One pound of Schultze Powder is equal to two pounds of Black Powder.

Schultze Powder is lighter in weight than Black Powder, but Canisters contain same bulk as similar Canisters of Black Powder

American Wood Powder.

Nearly Smokeless. Produces but Slight Recoil.



DESCRIPTION.	EACH
Special Grades, Trap, Full Kegs,	$19 50
Special Grades, Trap, Quarter Kegs,	5 00
Special Grades, Trap, Pound Cans,	85
All Other Grades, Quarter Kegs,	4 35
All Other Grades, Pound Cans,	75

We carry the following grades in stock

Trap. A special grade of extra strength, for use in Fine Quality Arms only. 12 Bore Trap is very quick, for 12 Bore Guns or smaller. 10 Bore Trap is quick for 10 Bore Guns or larger.

E. Is recommended for large Bore Guns, is strong, gives very close pattern, and in a 10 Bore is just the thing for ducking.

D. Same size grain as 12 Bore Trap, is adapted to field shooting, in either 10 or 12 Bore Guns, and is the powder we recommend especially for field shooting.

E. Fine, for Small Bore Shot Guns, such as 16 to 20 gauge.

Wood Powder is lighter in weight than Black Powder, but Canisters contain same bulk as similar Canisters of Black Powder.

Non-corrosive in Cans and Canisters.

E. C. Smokeless Powder.

A Smokeless Powder of Great Strength.

DESCRIPTION.	EACH.
1 Pound Cans,	$0 85
10 Pound Cans,	8 25

Loaded same as Black Powder. One pound of E. C. Powder is equivalent to two pounds of best Black Powder. A ten pound drum of E. C. Powder will not contain ten pounds in weight, but what is equivalent in bulk to ten pounds of Black Powder. The same will apply to the Schultze and Wood.

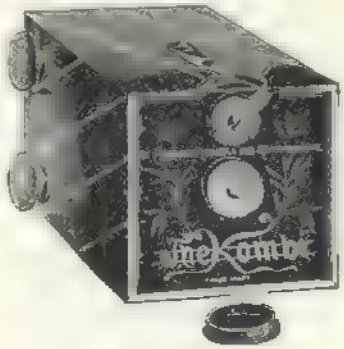
Smokeless SS Powder

One pound of SS Powder is equivalent to two pounds of Black Powder. A ten pound drum of this powder will not contain ten pounds in weight, but what is equal in bulk to [illegible] pounds of Black Powder.

DESCRIPTION	EACH.
1 Pound Cans,	$0 85
2 Pound Cans,	1 70
10 Pound Drums,	8 25
Proportional Drums	[illegible]

Bicycle Sundries.

The Kombi Combined Camera and Graphoscope.



This little device is pronounced by all who have seen it to be a [illegible] and reliable device [illegible] enough for anyone [illegible] It is so [illegible] on [illegible] printed upon a strip of transparent material.

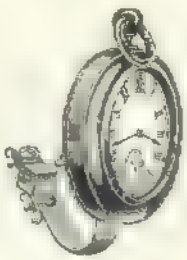
The [illegible] of [illegible] is of beautiful silver [illegible] finish. It is 2¼x4¼ inches, and weighs when loaded for twenty-five exposures, about four ounces.

It may be carried around in the pocket without the least discomfort [illegible] and [illegible] of [illegible] perfect as the most experienced photographer.

The [illegible] to its possessor at very little cost, and very little trouble.

DESCRIPTION	EACH
The Kombi, Complete, in Cloth Covered Carrying Case, [illegible]	$3 50
Strip of Film (Making 25 Exposures), [illegible]	[illegible]

Bicycle Watch and Attachment.



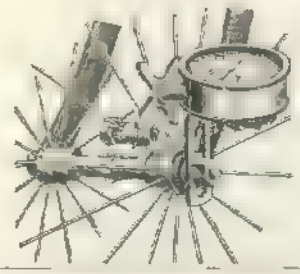
Attaches Quickly to any Part of Frame or Handle Bars. Watch may be Quickly Removed and [illegible]

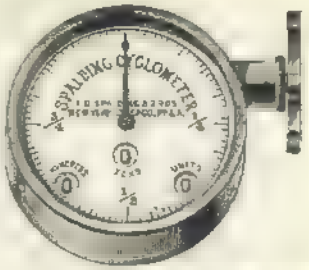
DESCRIPTION.	EACH
Columbian Bicycle Watch and Attachment, [illegible]	$2 50

[illegible] the simplest, most practical and only positively secure Bicycle Watch Attachment in the market. The attachment is a band of spring brass with adjustable [illegible] ends screws to attach to handle bar or frame, fitting any size one inch and under. To this spring the watch is securely fastened by thumb screw, directly [illegible] making it impossible for watch to get away, as it frequently does with other holders. The attachment contains the proper amount of spring to remove [illegible] and with it our watches are guaranteed to keep accurate time on any road.

Bicycle Sundries

The Spalding Cyclometer.





DESCRIPTION.	EACH
Spalding's Cyclometer. Registers 1,000 Miles and Repeats, Nickel Plated, White Dial for 28 and 30 inch Wheels	$2 00

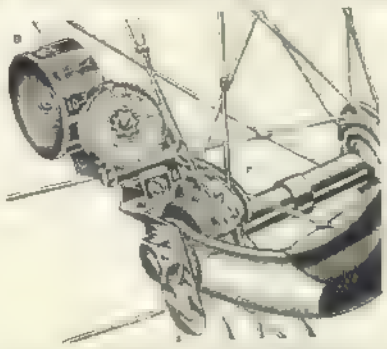
The mechanism consists of a train of gears and ratchet and driving dog, [illegible] and always in sight of the rider.

The Bridgeport Cyclometer.

A

B

MODEL.	DESCRIPTION.	EACH
A	Registers 1,000 Miles and Repeats, or can be Set Back to Zero at Will. Nickel Finish, with White Celluloid Face Plate, and Enlarged Figures on Dials. Improved Brackets and Dogs. For 28 and 30 inch Wheels. Weight 6 ounces.	$3 00
B	Same as Model A, with Bell, which Rings at Every Mile. Registers 1,000 Miles and Repeats, or can be Set Back to Zero at Will. Indispensable to Road Riders who Wish to Know How Fast they can Travel Per Mile. For 28 and 30 inch Wheels. Weight 7 ounces.	3 50
C	Registers 10,000 Miles Accurately and Repeats. Cannot be Set Back to Zero For 28 and 30 inch Wheels. Weight 6¼ ounces.	1 50



The Loew Cyclometer.

It is nickeled all over, has black dials with silvered figures, presenting a neat appearance and can be easily read from the saddle without dismounting. Projects only half an inch from the fork, and is not liable to be damaged by accident.

The construction, being very simple, enables any one to take it apart and put together again quick.

It is absolutely accurate and reliable, and not affected by dust.

It has an indicating dial, recording a total of 10,000 miles and repeats; or this dial can be set back to zero at the end of the season or any intermediate time desired.

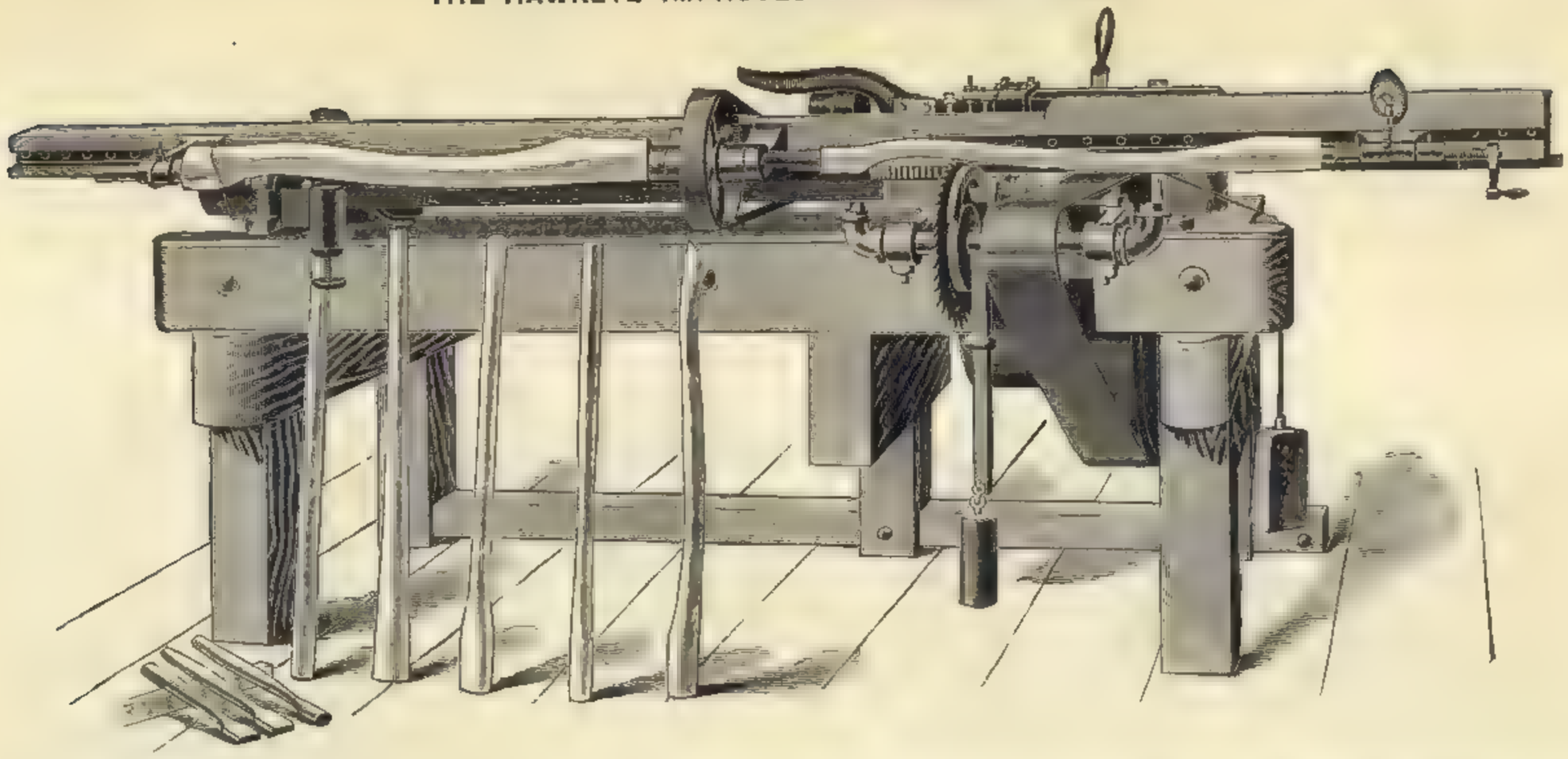
Also two other dials entirely independent from the total mileage dial, shown in cut at A and B. A indicates one mile and fractions thereof. B indicates up to 100 miles and repeats, serving as a trip indicator.

These two dials can be instantaneously set to zero by simply turning them by hand without affecting the total recorded by the total mileage dial, which constantly adds the mileage made by the wheel until the total is reached, when it repeats.

DESCRIPTION	EACH
Loew's Cyclometer, Registers 10,000 Miles and Trips, Nickel Plated, for 28 or 30 inch Wheels,	$3 25

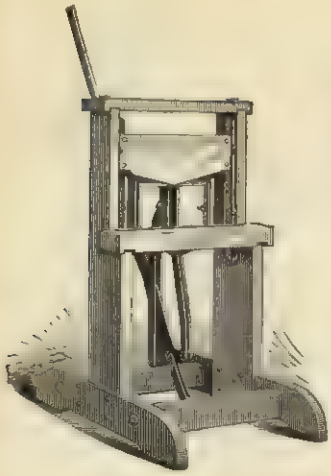
Always State Size of Front Wheel in Ordering.

THE HAWKEYE IMPROVED AXE HANDLE LATHE.



This improved machine for turning all kinds of handles, spokes, singletrees, etc., is similar in general form to other handle lathes in the market, but added features of construction render it far more efficient in use. We can guarantee from fifty to one hundred per cent more capacity in daily work than any other similar machine affords. Any person with ordinary ability can operate it successfully. The form of the the turned article is governed by a pattern which regulates only the shape of the finished article, the size being varied by raising or lowering the rest upon which the pattern revolves, by means of convenient mechanism provided for that purpose. We use a specially made cutter in the form of a heavy saw, instead of the old style cutter head, thereby securing much greater speed. The machine turns up to 42 inches in length. The feed and pattern are both automatic, and stop when the piece is turned complete. We use an automatic device that avoids the necessity of throwing off the belt that drives the pattern and blank when a piece is finished, and putting it on again when starting to turn another. The ordinary capacity on second growth hickory is from 450 to 700 common axe handles per day, or 500 to 900 spokes. Other work is done with corresponding rapidity. The work which is left more or less rough by the saw, is easily smoothed on a polishing belt, requiring much less labor than those made with a cutter head. Tight and loose pulleys are 16 inches in diameter, 8½-inch face, and should run 460 revolutions per minute. Weight 1,000 pounds.

Price of machine complete, ready for belts..... $190.00



HAND SHINGLE MACHINE.

This machine consists of sash, slides and knife, which are attached to a frame of wood, strongly made and bolted together. Motion is given to the knife by a toggle lever attached to the sash and table; it also has a tipping table, which can be adjusted so as to give proper thickness to the shingle. It is very important in running either of these machines to have the face of the knife perfectly true with the line of motion, otherwise the knife is liable to be broken and the machine injured.

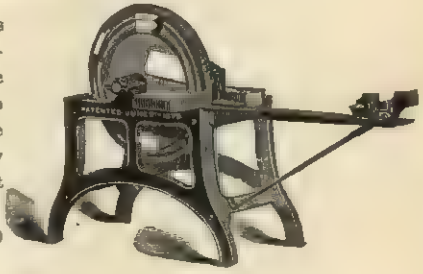
PRICES.

Hand Shingle Machine, complete, with 22½ in. knife	$50 00
Hand Shingle Machine, complete, with 24 in. knife	54 00
Sash and Slides, for 22½ in. knife	9 00
Sash and Slides, for 24 in. knife	10 00
Levers, per set	12 00
22½ in. knife	15 00
24 in. knife	17 00

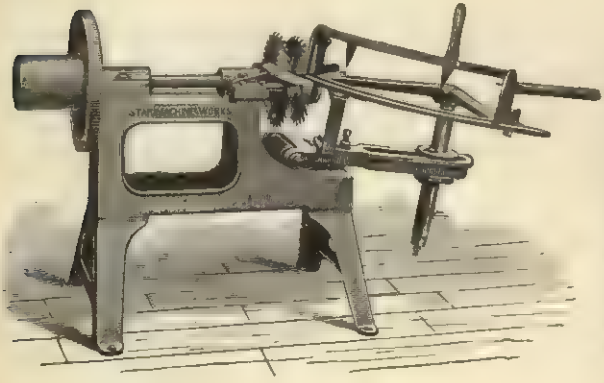
DUFOUR'S PICKET HEADING MACHINE.

Heads four styles of pickets, and leaves the corners sharp and smooth, cuts two flat pickets at one operation, and does the work as fast as a man can handle the pickets. One man and a boy can cut from 5,000 to 8,000 per day of ten hours. These machines are made entirely of iron and steel, have a tight and loose pulley 8 inch diameter and 4 inch face, and should run about 1,000 revolutions per minute.

Price $180 00



STAR FELLOE MACHINE.

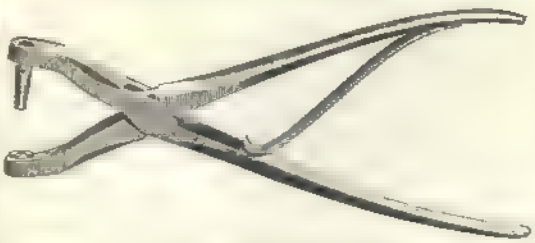


The Star Felloe Machine is built wholly of iron and steel. It has greatest capacity of any machine built for the purpose, and turns out its work perfectly true and accurate, insuring highest market prices. Will pay for itself in two weeks where there is suitable offal about a mill to work up into felloes, or where it is desired to make wagon stock exclusively.

Pulley 7 in. diam., 8 in. face. Fitted up with four saws and two carriages, for front and hind wheels.

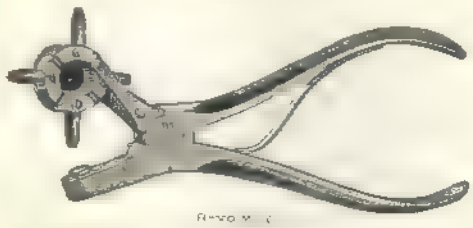
Price $175 00

Spring Punches.



NO.	DESCRIPTION	PER DOZEN
544	Cast Steel Polished, Assorted,	$6 00
20	Extra Tubes,	1 95

ONE DOZEN IN A BOX



NO.	DESCRIPTION.	PER DOZEN.
4	Cast Steel, Polished, with Four Tubes,	$16 00
20	Extra Tubes,	1 95

HALF DOZEN IN A BOX.

Saddlers' Punches.

Size,	1, 2, 3, 4, 5 and 6.	7, 8, 9 and 10
Per Doz.	Separate or Assorted, $2 00	Separate or Assorted, $2 50

ONE DOZEN IN A BOX

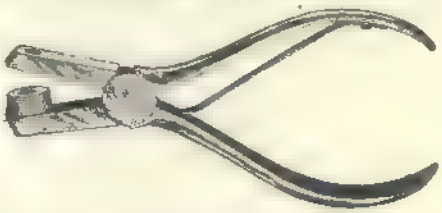
Belt Punches.

No. 62. Tool Steel, Tempered.

Size,	1, 2, 3, 4, 5 and 6.	7, 8, 9 and 10
Per Doz.	Separate or Assorted, $2 50	Separate or Assorted, 2 75

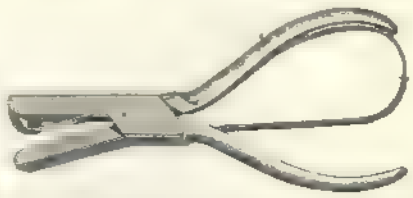
ONE DOZEN IN A BOX

Conductor Punches.



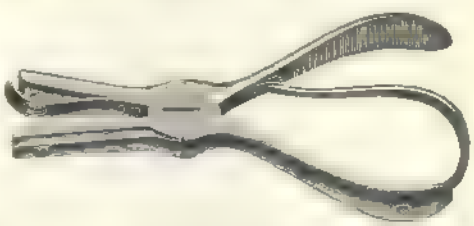
NO.	DESCRIPTION.	PER DOZEN
5	Polished, Various Holes, Assorted,	$4 00

ONE DOZEN IN A BOX.



NO.	DESCRIPTION.	PER DOZEN
36	Polished, Round Hole,	$10 00
1	Nickel Plated, Fancy Holes, Assorted	12 00

HALF DOZEN IN A BOX.



NO.	DESCRIPTION.	PER DOZEN
38	Nickel Plated, Fancy Holes, Assorted,	$18 00

HALF DOZEN IN A BOX

NO.	DESCRIPTION.	PER DOZEN
44	Nickel Plated, Fancy Holes, Assorted.	$30 00

ONE IN A BOX

Wrenches.

Agricultural Wrenches.

Wrought Iron Bar Head and Screw.

Inches.	6	8	10	12	15
Per Dozen,	$8 00	10 00	12 00	14 00	24 00

HALF DOZEN IN A PACKAGE.

Girard Standard Wrenches.

Best Wrought Iron Bar, Head and Screw. Warranted.

Inches.	6	8	10	12	15	18
Per Dozen.	$1 00	1 00	12 00	14 00	24 00	30 00

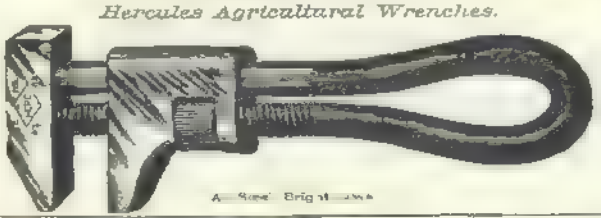
Coes' Standard Wrenches.

Wrought Iron Bar Head and Screw. Knife Handle.

Inches,	6	8	10	12	15	18	21
Black, Per Dozen,	$ 9 00	10 00	12 00	14 00	24 00	30 00	36 00
Bright, Per Dozen,	10 00	11 00	14 00	16 00	28 00	32 00	

6 TO 15 INCH, HALF DOZEN BALANCE, ONE-THIRD DOZEN IN A PACKAGE.

Hercules Agricultural Wrenches.

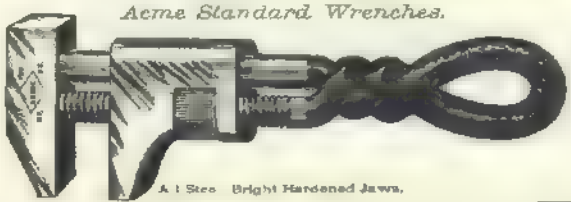


A Steel Bright Jaws.

Inches,	6	8	10	12	15
Per Dozen,	$8 00	10 00	12 00	14 00	24 00
Hercules, Pocket, 4½ inch, all Steel, Unpolished,					Per Dozen, $8 00

HALF DOZEN IN A PACKAGE.

Acme Standard Wrenches.



A 1 Steel Bright Hardened Jaws.

Inches,	6	8	10	12	15	18	21
Per Dozen,	$9 00	10 00	12 00	14 00	24 00	30 00	36 00
Acme, Bright, Pocket, 5 inch,							Per Dozen, $6 00
Acme, Nickel Plated, Pocket, 5 inch,							Per Dozen, 12 50

HALF DOZEN IN A BOX.

Pucinta Power & C. Proprs

Queen City Supply Co. Cincinnati O.

BELLS.

Fig. 1716

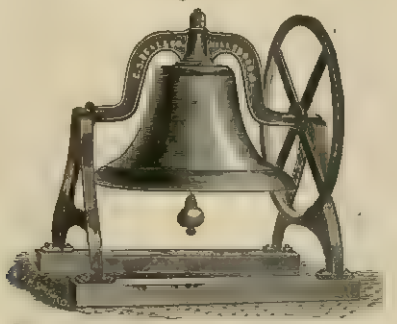
TRIP GONG BELLS.
For Factories, Mills, Locomotives, Steamboats, Etc.

SIZES AND PRICES.

4	inch, plain, each		$ 2.20;	polished, each		$ 2.45	12	inch, plain, each		$ 9.25,	polished, each		$11.00
5	" " "		2.45,	" "		2.95	13	" " "		11.00,	" "		12.90
6	" " "		2.95;	" "		3.70	14	" " "		12.90;	" "		15.00
7	" " "		3.70;	" "		4.60	15	" " "		15.00,	" "		18.50
8	" " "		4.60,	" "		5.60	16	" " "		18.50,	" "		23.00
9	" " "		5.60;	" "		6.70	18	" " "		23.00;	" "		28.00
10	" " "		6.70,	" "		7.90	20	" " "		28.00;	" "		33.00
11	" " "		7.90,	" "		9.25							

* In ordering, state whether right or left hand fixtures are wanted.

Fig. 1717



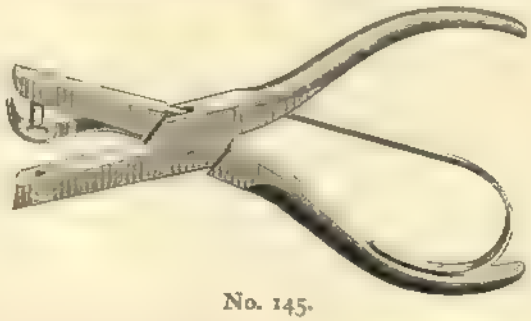
Plantation, Farm and Small Factory Bells.

Made of pure copper and tin, mounted with improved hangings (yoke, lever and iron boxes) which are a separate charge and not weighed with the Bell.

WEIGHT, DIAMETER AND PRICE OF HANGINGS.

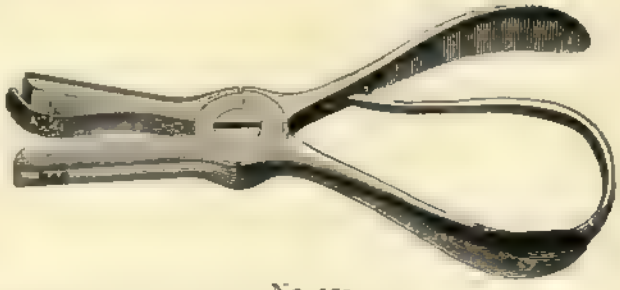
Weight of Bell.	Diameter of Bell.	Price of Hanging	Weight of Bell	Diameter of Bell	Price of Hangings
13 pounds	8½ inches.	$1.00	50 pounds.	14 inches.	$2.00
16 "	9¼ "	1.00	60 "	15 "	2.50
20 "	10¼ "	1.25	70 "	15½ "	2.50
25 "	11 "	1.25	80 "	16½ "	3.00
30 "	11½ "	1.50	100 "	17 "	4.00
35 "	12¼ "	1.50	125 "	19 "	5.00
40 "	13 "	1.75	150 "	20 "	6.00

Conductors Punches.



No. 145.

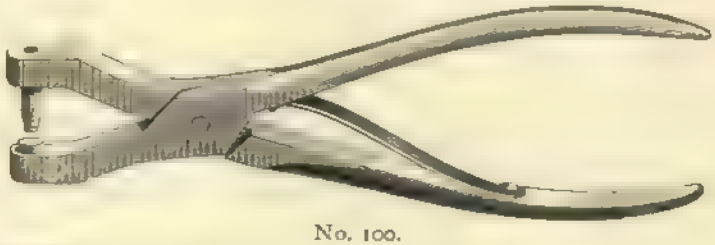
No.		Per Dozen
145.	Cast Steel, Polished, Assorted Holes,	$12.00



No. 159.

159.	Extra Cast Steel, Nickel Plated, Assorted Fancy Holes,	18.00

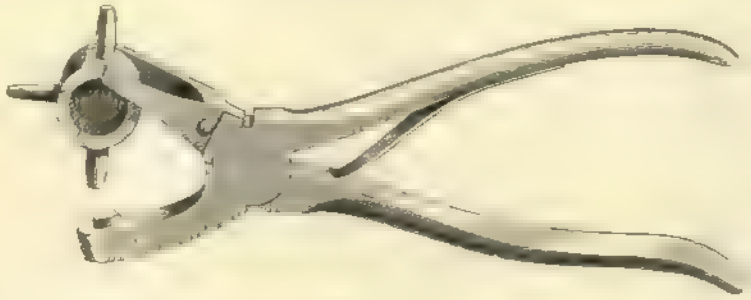
Spring Punches.



No. 100.

100.	Cast Steel, Polished, Assorted, Nos. 4, 5, 6, 7 or 8,	6.00
200.	Cast Steel, Polished, with Two Extra Tubes,	9.00

One Dozen in a Box.



No. 600.

400.	Revolving, Extra Cast Steel, Four Tubes.	14.00
600.	Revolving, Extra Cast Steel, Six Tubes,	16.00

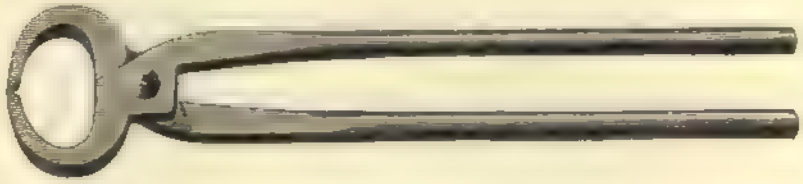
Half Dozen in a Box.

Carpenters Pincers.

No. 100. Steel Faced Jaws.					No. 200. Cast Steel.						
Inches,	6	7	8	9	Inches,	6	7	8	9	10	12
Per Dozen,	$5.00	5.50	6.00	6.50	Per Dozen,	$6.50	7.00	7.50	8.00	8.50	9.50

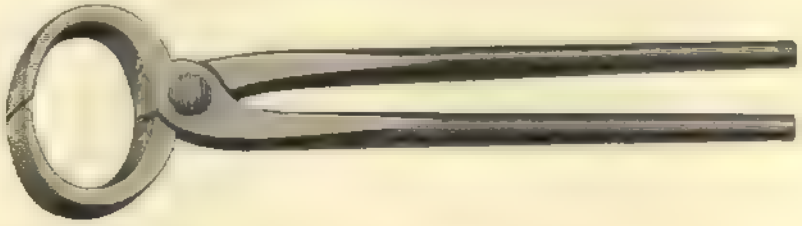
Blacksmiths Pincers.

Western Pattern.



No		Per Dozen
50.	12 inch, Polished Steel Jaws,	$10.00

Philadelphia Pattern.

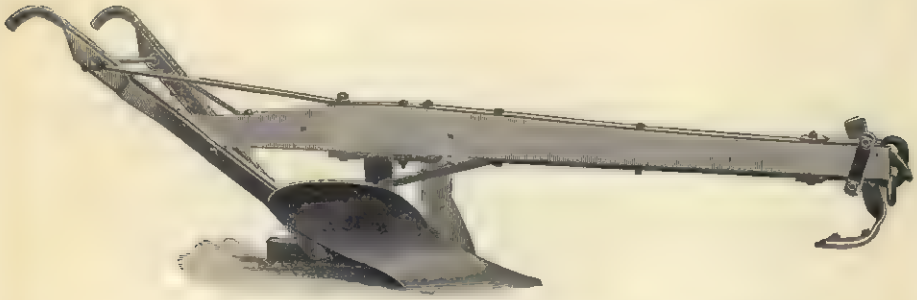


60.	12 inch, Polished Steel Jaws,	12.00
70.	14 inch, Solid Cast Steel, Polished Jaws, will Clip Horse Nails,	20.00

Farriers Cutting Nippers.

30.	12 inch Solid Cast Steel, Extra Quality,	21.00
32.	14 inch, Solid Cast Steel, Extra Quality,	24.00

RAILROAD AND TOWNSHIP PLOWS.



Made either right or left hand (right hand always sent unless otherwise instructed). These Plows are strong, well made and securely braced throughout.

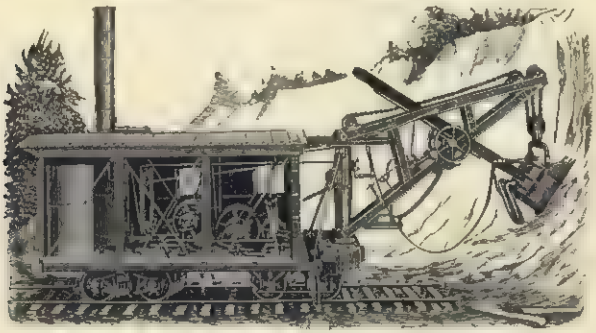
The beams are made of the best white oak, heavily ironed on both the lower and upper sides, and are complete with wrought iron clevis with two strong rings on the end. Heavy wrought steel standards, with large plate on top, and securely braced. The moldboards, shares and cutters are of the best quality plow steel, and will scour anywhere. The moldboards and shares are double shinned. The cutters are reversible, and very strong. The handles are of the best quality of timber, strapped on both sides with heavy iron, and complete with solid iron handholds.

These Plows are made with slip shares, and every share is an exact duplicate of the one on the Plow when sent out, and guaranteed to fit when sent out as an extra.

No. 1.	Right or left hand, 2 to 4 horse, beam 6¼ feet, weight 150 pounds	$27 50
No. 2.	Right or left hand, 4 to 6 horse, beam 7½ feet, weight 200 pounds	31 00
No. 3.	Right or left hand, 6 to 8 horse, beam 8½ feet, weight 300 pounds	38 00
No. 4.	Right or left hand, 8 to 12 horse, beam 9½ feet, weight 400 pounds	45 00

When ordering repairs be careful to state number of plow, and whether right or left hand.

STEAM SHOVELS AND EXCAVATORS.



Recent valuable improvements and simplification of these machines increase their working capacity largely, at same time reducing costs, so that we are enabled to offer attractive inducements to intending purchasers. Address us for information and prices.

HASLUP'S IMPROVED STEEL SCRAPERS.

Western Pattern Drag Scraper with Broad Runner

New Pattern Round Back, Solid Pressed Scraper

Haslup's Western Pattern Improved Drag Scraper, with broad single runner is made of a single piece of steel with neatly bent round corners and is free from sharp curves It is the strongest and most desirable scraper in the market for railroad contractors and public road workers No test too severe for it The broad runner is wider in front than in the rear making it clean easily It is riveted to the bottom in such a way that no wear can come on the rivets. In addition to stiffening the scraper and adding to its strength, it reduces the friction greatly, and makes the scraper last much longer The bale is made of steel, with wrought iron swivel The scraper can be dumped sidewise or forward with perfect ease

No. 1, capacity 7 cubic feet, weight 110 pounds						price,	$14 00
No. 2,	"	5	"	"	100	"	13 00
No. 3,	"	3½	"	"	85	"	12 00

The new patent Round back scraper is pressed from a single piece of steel, and is free from over-laps The corners, sides and back are formed on a gradual curve, allowing the earth to run back easily, and the scraper to fill to its fullest capacity It goes up embankments without catching on the point and it carries its load well either up or down hill, and is easily dumped. This scraper has a narrow flange around the back and sides, and it is so shaped as to run to the upper edge of the sides as it approaches the point This flange is continuation of the same plate as the scraper and adds very much to stiffness and strength as well as to its carrying capacity It is superior to any scraper pressed in two pieces and riveted together on the bottom, where all the wear comes They are furnished with our long tried steel bales and wrought iron swivels, which are superior to any in the market The handles are sawed tapering, and driven into the sockets securely riveted on the sides.

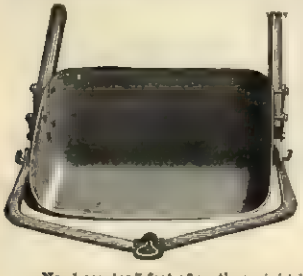
No 1, capacity 7 cubic feet, weight 110 pounds						price,	$13 00
No. 2,	"	5	"	"	100	"	12 00
No. 3,	"	3½	"	"	90	"	11 00

HASLUP'S IMPROVED DRAG SCRAPERS.

With Steel Bales, Hooks and Runners.

The tray is made of a single piece of steel, so bent as to be free from sharp corners and angles, having no place where the dirt can collect and stick It is so constructed that the portion forming the back passes upon the inside of the sides, where it is firmly held by two bolts passing through both the sides and end, and in connection with the clamp forms the fastening for the upper portion of the handle. The other fastening is similar, and so adjusts itself to the handle as to form a perfect and secure device for holding it in place No non-adjustable sockets or clamps are used. An important feature is the protection of the bottom from wear We have securely riveted upon the bottom two steel runners of such shape as to insure the greatest cleaning capacity, and at the same time reduce the friction to the least possible amount

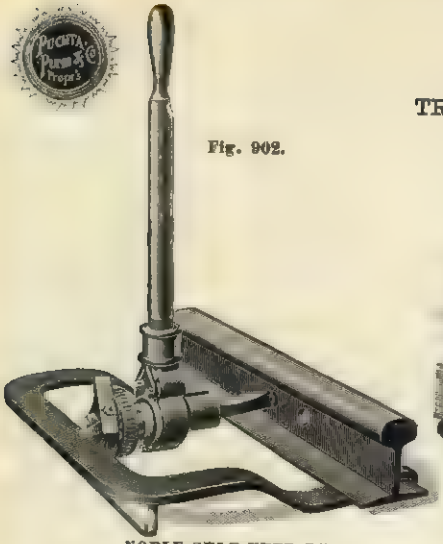
This scraper fills easily, carries a full load and dumps with very little effort.



No 1 carries 7 feet of earth, weight 100 pounds						price,	$13 00
No 2	"	5	"	"	85	"	12 00
No 3	"	3½	"	"	75	"	11 00

TRACK DRILLS.

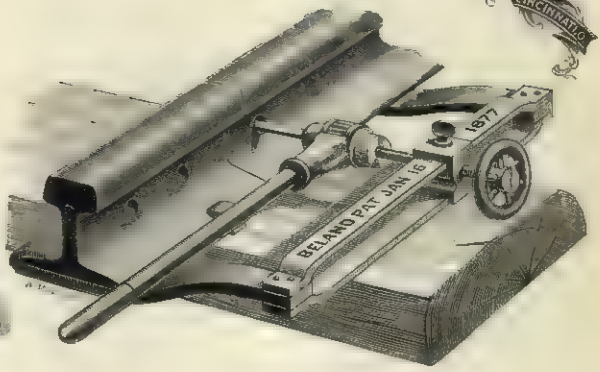
Fig. 902.



NOBLE SELF-FEED DRILL.

This drill is self feeding, the feeding being done by friction. It can be adjusted and regulated to any desired tension by means of the thumb screw. The ratchet is encased and therefore not so liable to wear by the action of sand and grit.
Price, complete, with two bits $10 00

Fig. 903.



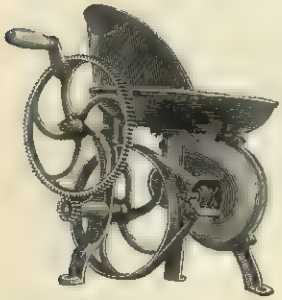
BELAND TRACK DRILL.

This drill is made of wrought and malleable iron and cast steel, it is a thoroughly reliable drill and will fill all requirements.
Price, complete, with two bits. $10 00

KIT OF TOOLS.

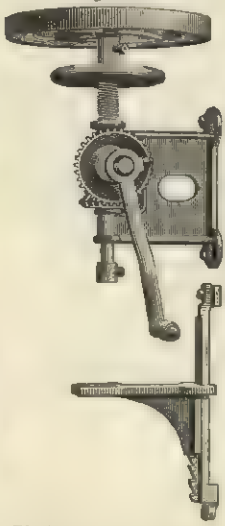
For Farmers' Stockmen, Planters and Machinists.

Fig. 904.



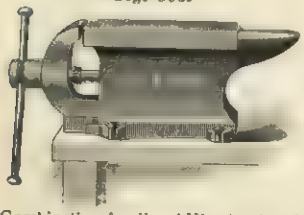
Farmer's Forge, No. 5 B, will heat 1½ inch iron.

Fig. 905.



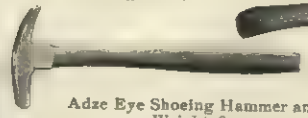
Blacksmith's Drill Press, Hand Feed. Weight, 65 lbs.

Fig. 906.



Combination Anvil and Vise, hardened face, finely polished, weight 55 lbs.

Fig. 907.



Adze Eye Shoeing Hammer and Handle. Weight, 9 ounces.

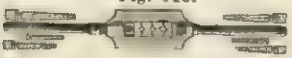
Fig. 908

Farrier's Knife, Woostenholm.

Fig. 909.

Blacksmith's Tongs, Wr't Iron, 18 in. long

Fig. 910.



Screw Plate, 3 Taps, 3 Sets Dies, cuts ⅛, ⅜ and ⅝ inch.

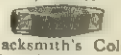
Fig. 911.

Farrier's Pincers, cast steel, 12 inch.

Fig. 912.

Blacksmith's Hammer and Handle, 2 lbs Solid Cast Steel.

Fig. 913.



Blacksmith's Cold Chisel, 1¼ lbs.; solid Cast Steel

Fig. 914.

Blacksmith's Hot Chisel, 1¼ lbs.; solid Cast Steel.

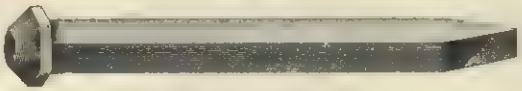
This is unquestionably the best and cheapest kit of tools on the market. Every tool is warranted and satisfaction guaranteed
The above kit, complete. $25.00

QUEEN CITY SUPPLY CO. CINCINNATI, O.

PATENTED FIRM & CO. Proprs.

RAILROAD AND BOAT SPIKES.

Fig. 799.



BOAT SPIKES.

½ inch square,	6 to 12 inches long	...	...per pound, $.	⅝ inch square,	4 to 8 inches long	per pound, $
⅝ " "	6 to 10 " "	....	.. "	¾ " "	4 to 6 " "	"
¾ " "	4 to 10 " "	....	... "	¾ " "	3 to 3½ " "	"

Shorter than 4 inches, ¼ cent extra.

Fig. 800.

DRIFT SPIKES.

Drift Spikes, ragged or plain, with or without heads, prices on application.

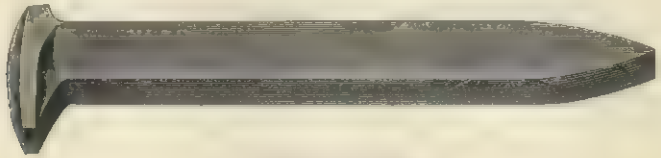
Fig. 801.

STREET RAILWAY SPIKES.

⅝ inch square,	"counter sunk head"	....	.per pound, $ ...	⅞ inch square,	"counter sunk head"	.per pound, $..
¾ " "	" "	...	"	1 " "	" "	"
1 " "	" "	.....	"			

Round counter sunk .. cent extra.

Fig. 802.



RAILROAD SPIKES.

3 and 3½ x ... inches		..per pound, $		4 [illegible] 4 and 4½ x ⅜ inches .		per pound, $.
3½. 4, 4½ and 5 x ½ inches		"		2½ x ⅜ inches..		"
3½ 4 and 4½ x ½	"	"		2½, 3 and 3½ x 7/16 inches		"

Reverse points, ¼ cent extra.

RAILROAD AND FOUNDRY CRANES.

Fig. 72.

Improved Railroad Crane.

THE COLUMN is a single casting from 1 to $2\frac{3}{4}$ inches thick. **The Gearing** is double, with the pinion on Crankshaft for **fast or slow motion,** or half way between each **lockshaft,** or can be slipped out of both, so that the load can be lowered without the cranks whipping **Improved Friction Brake** is conveniently located and arranged so that by its use the operator may **hold the load** at any desired point, or control the rapidity of its descent. The whole Crane is simple in construction, combining great strength and easy operation.

SIZES, CAPACITIES, ETC.

9-ton Crane, 14 feet radius, weight, 18,000 lbs. . . . . $
12-ton Crane, 16 feet radius, 20,000 lbs. . . . . .
15-ton Crane, 18 feet radius, weight, 25,000 lbs . . . . . .
20-ton Crane, 20 feet radius, 28,000 lbs. . . . . .

MACHINE SHOP AND FOUNDRY CRANES.

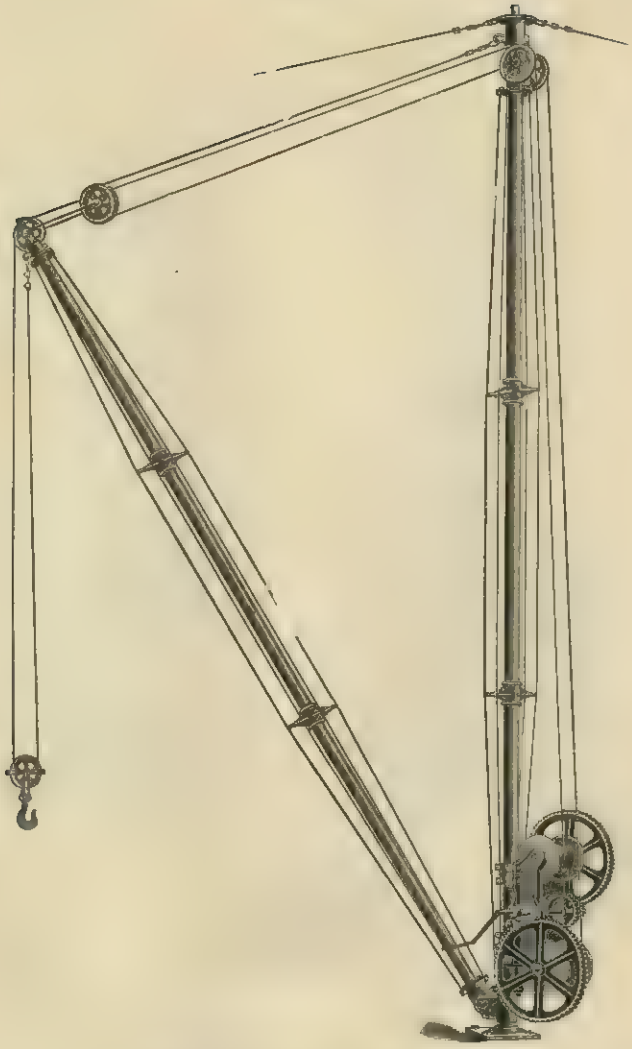
These Cranes have wooden frames with suitable cast-iron sockets, also cast-iron and wrought-iron fittings; are well built, strong, powerful, and have recent improvements.

2-ton Crane, weight, 3,050 lbs. Price, with chain. . . . . $
4-ton Crane, weight, 4,450 lbs. Price, with chain . . . . .
6-ton Crane, weight, 6,210 lbs. Price, with chain . . . . . .
12-ton Crane, weight, 10,500 lbs. Price, with chain. . . . . .

QUEEN CITY SUPPLY CO CINCINNATI, O.

IRON DERRICKS.

Fig. 71.



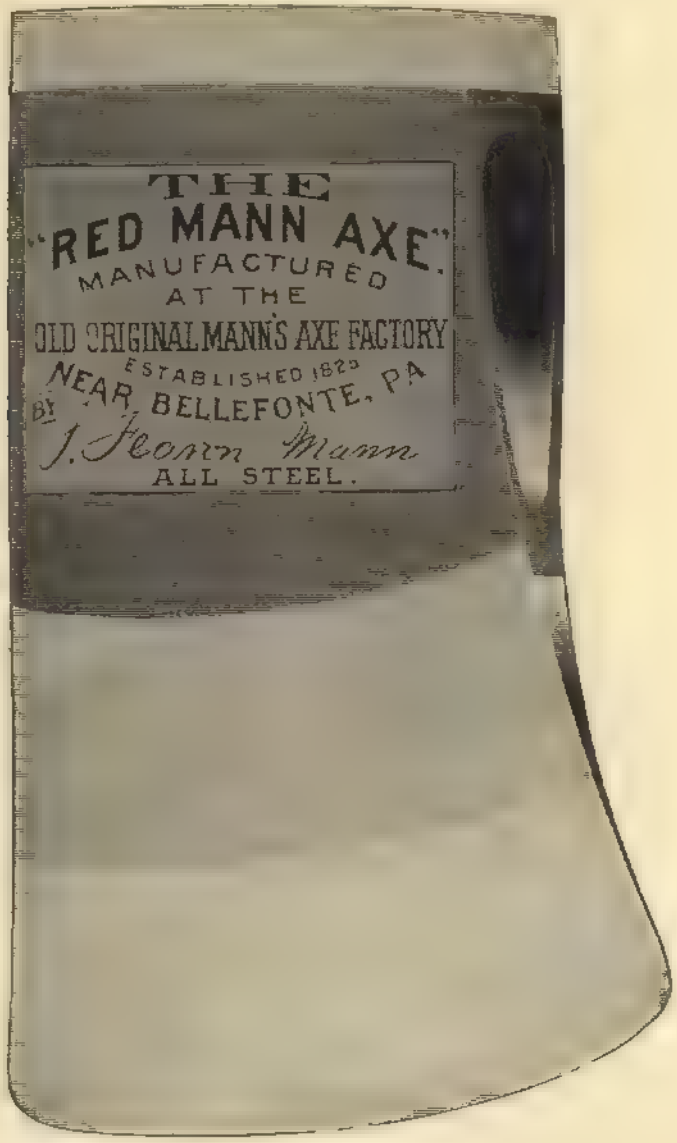
PATENT PIPE DERRICK, DOUBLE DRUM.

This derrick combines lightness, great strength and convenience in handling. It is held together by clamps and trusses, and is perfectly secure in all respects. For contractors and builders it is especially recommended

PRICES ON APPLICATION.

The "Red Mann" Axe.

Yankee Pattern.



Gold Bronzed.

	Per Dozen
Narrow Bit, Heavy Square Poll, Inserted Steel, ...	$9.00

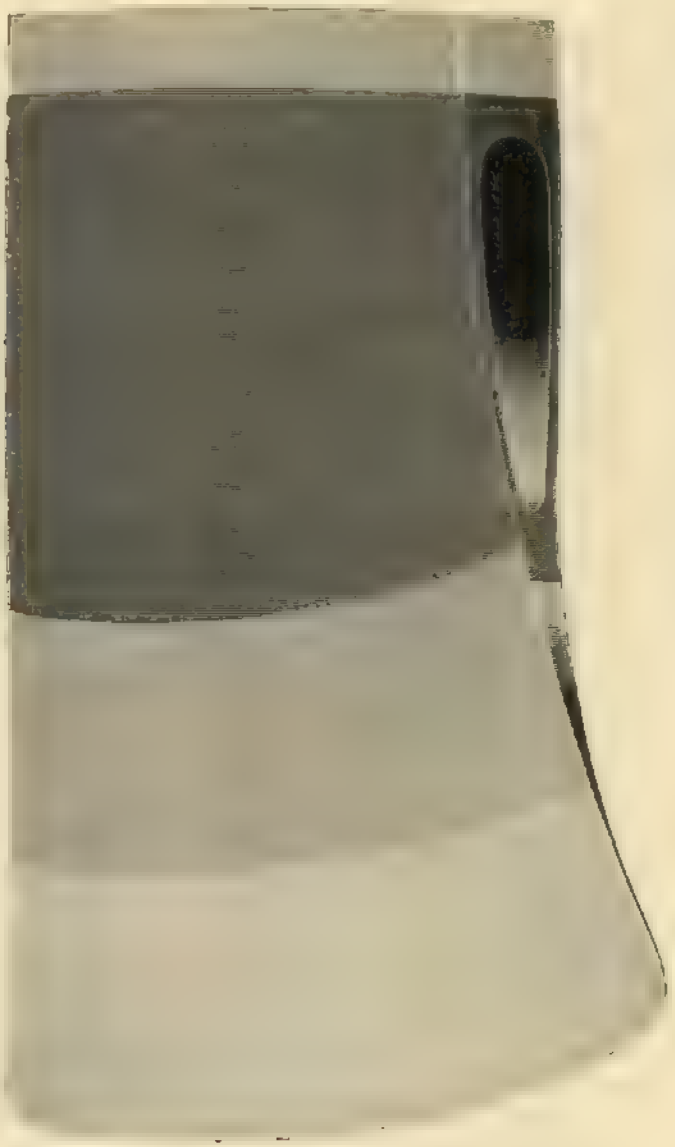
Weights, assorted.

3x4 lbs. 3¼x4¼ lbs. 3½x4½ lbs. 3¾x4¾ lbs. 4x5 lbs

One Dozen in a Box.

The Morgan Axe.

Yankee Pattern.



Gold Bronzed.

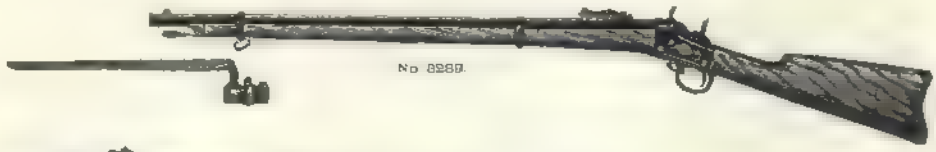
	Per Dozen
Narrow Bit, Heavy Square Poll, ...	$8.00

Weights, assorted,

3¼x4¼ lbs. 3½x4½ lbs. 3¾x4¾ lbs. 4x5 lbs.

One Dozen in a Box.

Military Arms and Muskets.



No. 8289.

No. 21

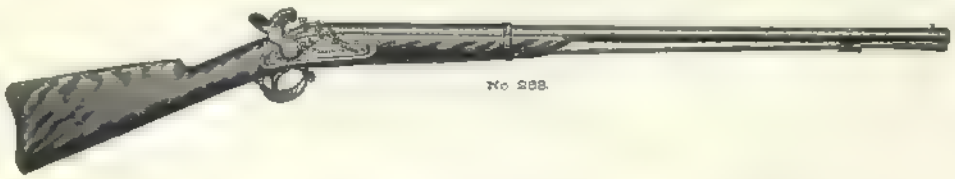
NO.	DESCRIPTION.	EACH.
8287	Remington System Cadet Rifle with Angular Bayonet Caliber 32-100, Rim Fire, Oiled Walnut Stock, Polished Steel Barrel and Mountings, Three Bands, Strap Swivels. Length with Bayonet set, 54 inches. Weight, 4½ lbs.,	$8 85
21	Springfield U. S. Rifle and Bayonet, Standard System, Polished Blue Mountings, Barrel and Bayonet Model'70, Square Stock, Plain Sights, Caliber 45 70, 32½ inch Barrel, 8½ lbs.,	9 75
22	Springfield U. S. Cadet Rifles and Angular Bayonets for Military Schools, U. S. Standard System. Polished Blued Mountings, Barrel and Bayonet, Caliber 45 70, 29½ inch Barrel, Bayonet 16 inches, Weight, ½ lb. Total length of Arm with Bayonet set, 64 inches. Total weight, 8½ lbs.,	11 25
8289	Remington Cadet Rifle, with Bayonet, 50 Caliber, C. F. Pistol, Oiled Walnut Stock, 29 inch Polished Blued Barrel and Mountings. Total length with Bayonet set, 57 inches. Weight, 6½ lbs.,	10 50

Muskets.

NO.	DESCRIPTION.	EACH
260 S	Springfield Model'42, with Patent Breech F. A. Lock, Well Cleaned,	$3 85
260 B	Springfield Model'42, Patent Breech Cleaned Musket, with Bayonet,	3 75

Equipment Sets.

NO.	DESCRIPTION.	PER SET
2	Cadet Equipment Set, comprising Leather Bayonet Scabbard, Cartridge Box and Belt with Eagle Buckle,	$1 50
3	Eagle Equipment Set, comprising Leather Bayonet Scabbard, Cartridge Box and Belt, with Eagle Buckle,	1 50
4	McKeever Equipment Set, comprising Steel Bayonet Scabbard, McKeever Cartridge Box and Belt	3 00
	Sling Straps for Muskets, Each,	90



No 288.

Cut Down Muskets.

NO	DESCRIPTION.	EACH
288	U. S. Model Springfield, 1868, Cut Down and Remodeled, Blued Barrel with Case hardened Lock, Hammer Guard and Heel Plate Blued Oil Varnished Stock	$8 35

Single Barrel Breech Loaders.

Forehand Arms Co's

No. 283½

No.	DESCRIPTION	EACH
[illegible]	[illegible] Barrel [illegible]ing Lock Top Lever Action, Pistol Grip [illegible] Walnut Stock 30 and 32 inch Barrel Weight 6½ to 7 lbs.,	$ 8 00
[illegible]	12 Gauge Red Twist Barrel, Rebounding Lock, Top Lever Action, Pistol Grip, Patent Fore-end, Case hardened Frame, Oiled Walnut Stock, 30 and 32 inch Barrel Weight 6½ to 7 lbs.,	10 00

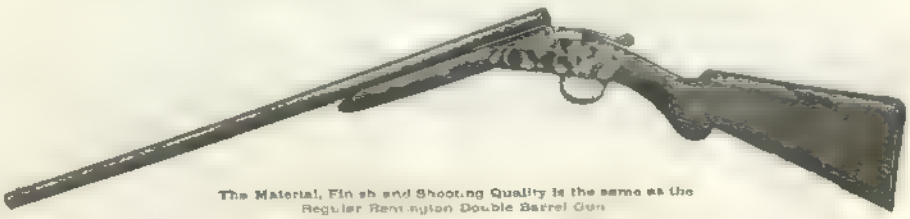
Crescent Fire Arms Co's

No. 282½

Choke Bored Case-hardened Frame

No.	DESCRIPTION	EACH
281½	12 Gauge, Blued Steel Barrel, Choke Bored, Rebounding Lock, Top Lever, Pistol Grip, Patent Fore-end, Fancy Rubber Butt, 30 and 32 inch Barrel. Weight about 7 lbs.,	$ 8 00
[illegible]	[illegible] same description as No. 281½	[illegible] 00
[illegible]	12 Gauge, Twist Barrels, same description as No. 281	10 00

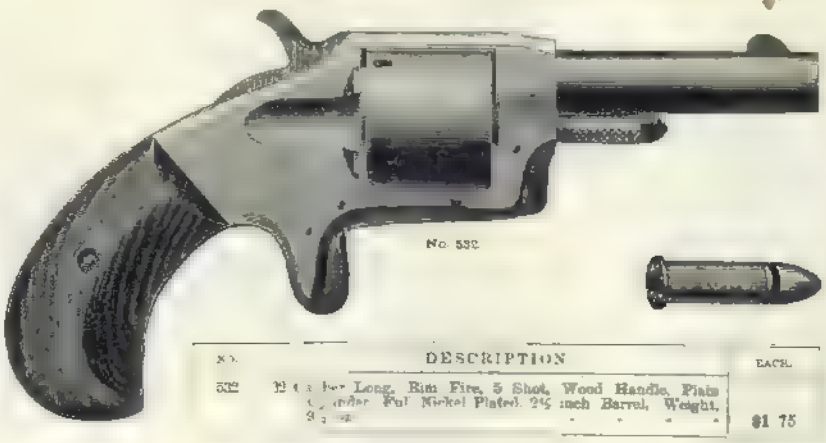
Remington New Semi-Hammerless.



The Material, Finish and Shooting Quality is the same as the Regular Remington Double Barrel Gun

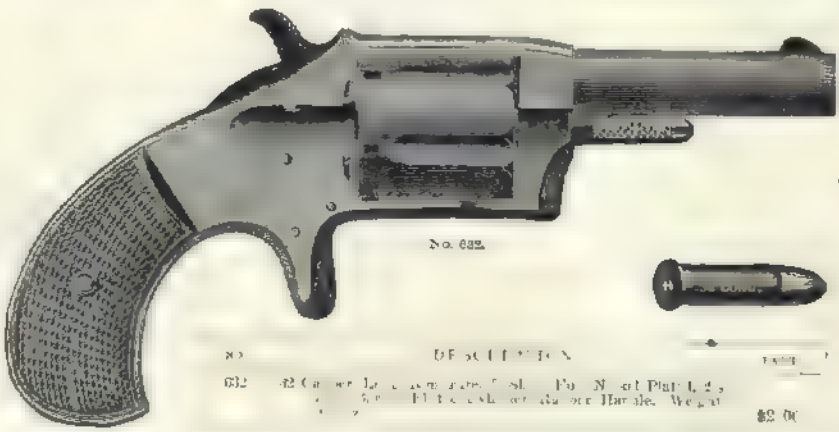
No.	DESCRIPTION	EACH
285½	12 Gauge, Top Lever, Semi-Hammerless, Blue Steel Barrel, Choke Bored, Side Cocking Lever, Case-hardened Frame and Butt Plate, Pistol Grip Stock, Rebounding Lock, 30, 32 and 34 inch. Weight 6 to 6½ lbs.,	$7 50

Single Action Revolvers.



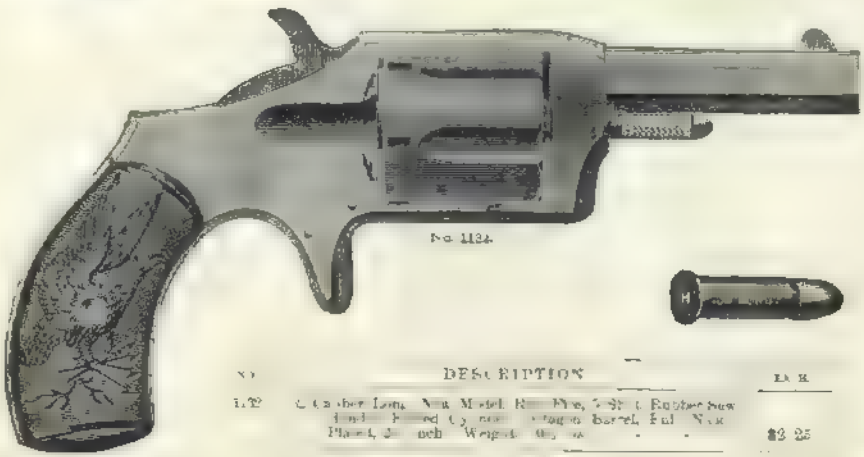
No. 532

NO.	DESCRIPTION	EACH
532	22 Caliber Long, Rim Fire, 5 Shot, Wood Handle, Plain Cylinder, Full Nickel Plated, 2½ inch Barrel, Weight, 9 oz.	$1 75



No. 632

NO.	DESCRIPTION	EACH
632	32 Caliber Long, Rim Fire, 5 Shot, Full Nickel Plated, 2½ inch Barrel, Hard Rubber Handle, Weight, 9 oz.	$2 00

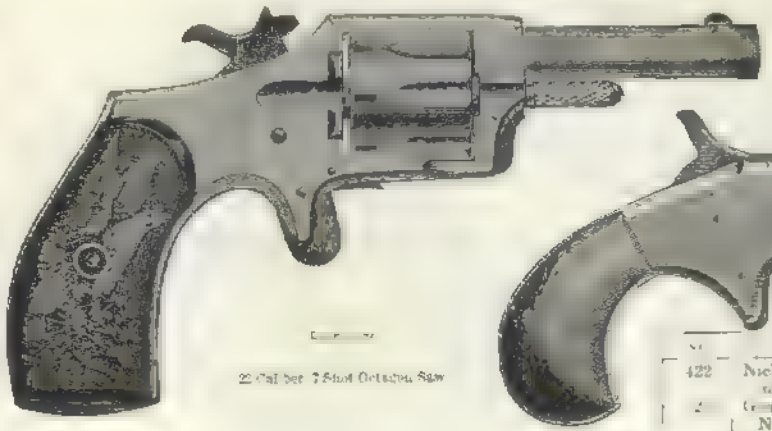


No. 1134

NO.	DESCRIPTION	EACH
1132	32 Caliber Long, New Model, Rim Fire, 7 Shot, Rubber Stag Handle, Blued Cylinder, Octagon Barrel, Full Nickel Plated, 3 inch, Weight, 10 oz.	$2 25

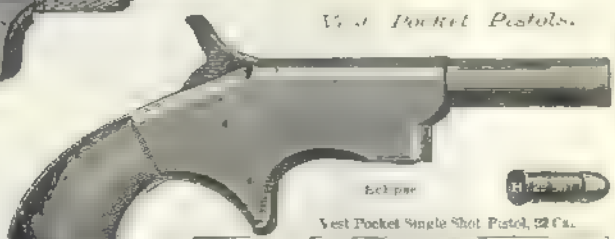
Revolvers, Pistols and Derringers.

Single Action Revolvers.



22 Caliber 7 Shot Octagon Saw

Vest Pocket Pistols.



Eclipse

Vest Pocket Single Shot Pistol, 22 Cal.

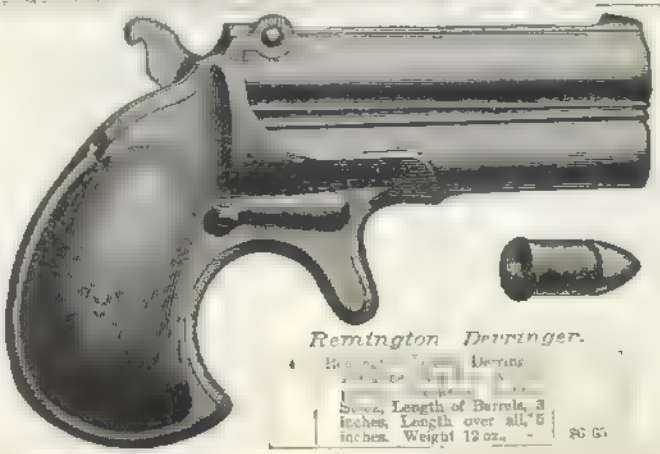
No.	DESCRIPTION	EACH
422	Nickel Plated, Wood Stock [illegible] Barrel. Weight 4 [illegible]	$8 [illegible]
[illegible]	[illegible] 22 Caliber, Single Shot Nickel Plated, Wood Stock, for Blank Cartridges or BB Caps,	45

No.	DESCRIPTION	EACH
522	[illegible] Caliber Single Shot Wood Handle [illegible] Nickel plated [illegible] Barrel [illegible]	$ 40
525	[illegible] Caliber [illegible] with Rounded [illegible] Grade [illegible] Rubber Handle.	1 60
1525	[illegible] Caliber [illegible] Model [illegible] Shot [illegible] Saw Handle, Finished [illegible] Octagon Barrel, Full Nickel [illegible] Weight [illegible]	80

Stevens Pistols.

Diamond Model.

No.	DESCRIPTION	EACH
10	Stevens Tip-up Pistol, 22 Caliber, Rubber Handle, Nickel plated, 3½ inch Barrel. Weight, 7 oz.	$3 00
11	Stevens, 22 Caliber, [illegible] Tang [illegible] Single Shot. Nickel Plated Barrel. [illegible]	[illegible] 00
12	Stevens [illegible] Tip-up [illegible] Tang [illegible] Nickel plated [illegible]	[illegible] 00



Remington Derringer.

[illegible] Derringer [illegible]

Steel, Length of Barrels, 3 inches, Length over all, 5 inches. Weight 12 oz. — $6 00

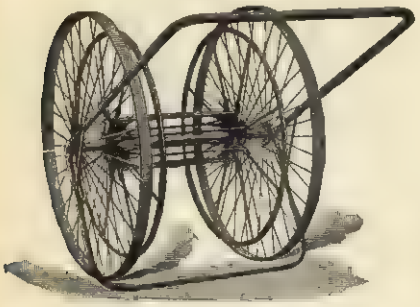
REVOLVING ARM LAWN SPRINKLER.

Fitted for 3-4 Inch Hose Connection.

No. 1½. Four Arms, with Spray Jet Cap $5 50
No. 5½. Eight Arms, " " " " 7 00
Ball and Basket Jet, complete which can be attached to either of above..... 4 00

The Arms revolve by the pressure of the water and the center Jet throws a stream which sustains the ball in the air.

PARK REEL.



For Large Lawns, Parks, Mills, Factories and Warehouses.

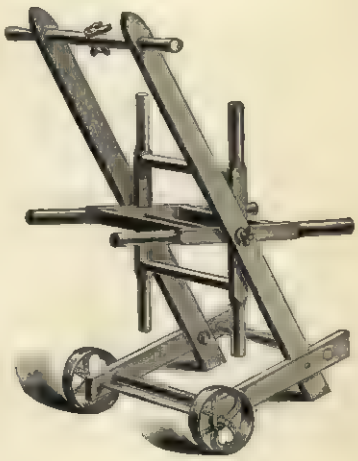
No.	Height of Wheel.	Weight.	Capacity ¾ in. hose.	Price.
21	28 in.	30 lbs.	200 ft.	$ 7 50
31	34 in.	45 lbs.	500 ft.	10 50

ACME HOSE REEL.

The Frame is of gas pipe and the Reel of wood. It is a very strong and substantial Reel. Shipping weight 10 pounds, and capacity 100 feet ¾-inch hose.

Price, each.....$2 00

NATIONAL HOSE REEL.

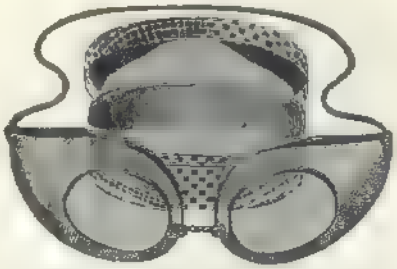


This is a cheap but substantial article designed to supply the demand for a low-priced reel.

Capacity, 100 feet ¾-inch rubber hose.

Price, each.....$1 50

Goggles.



DESCRIPTION.	PER DOZEN
White Glass,	$1 70
Blue or Smoked Glass,	2 00
Assorted,	2 00

ONE DOZEN IN A BOX.

Spectacle Cases.

NO.	DESCRIPTION.	PER DOZEN.
85	Paper, Extra Strong, Flannel Lined,	$0 50

ONE DOZEN IN A PACKAGE.

NO.	DESCRIPTION.	PER DOZEN.
	Polished Tin, Open End, Flannel Lined,	$2 40

ONE DOZEN IN A PACKAGE.

Horseshoe Magnets.

DESCRIPTION	PER DOZEN
2½ inch, Painted Red, Polished Poles,	$ 80
3 inch, Painted Red, Polished Poles,	2 50
3½ inch, Painted Red, Polished Poles,	3 50
4 inch, Painted Red, Polished Poles,	4 50

Harmonicas.

No. 241

NO.	DESCRIPTION	PER DOZEN
241	Richter's 10-hole, Single Mouth, 3½ inch	$ 1 00
261	Richter's 10-hole, Single Mouth, 3½ inch	1 50
262	Richter's 10-hole, Single Mouth, 4½ inch	1 50
273	Richter's 10-hole, Double Mouth, B. & F.	2 50
374	Richter's 10-hole, Double Mouth, B. & F., 4½ inch	3 00

No. 161

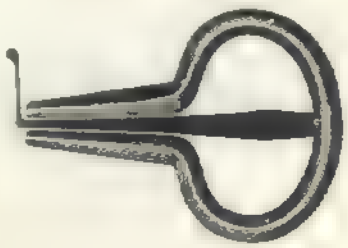
NO.	DESCRIPTION	PER DOZEN
161	Richter's 10-hole, 'Professional,' Single Mouth 3½ inch.	$2 50

No. 444

NO.	DESCRIPTION	PER DOZEN.
444	Richter's 10-hole, "Excelsior," Silver Reed, Single Mouth, 4 inch	$3 50
500	Genuine J. F. Emmet 10 hole Single Mouth, 4 inch,	4 00
600	Genuine Hohner, 20-hole, Double Mouth, 4 inch,	5 00

HALF DOZEN IN A PACKAGE.

Jews' Harps.



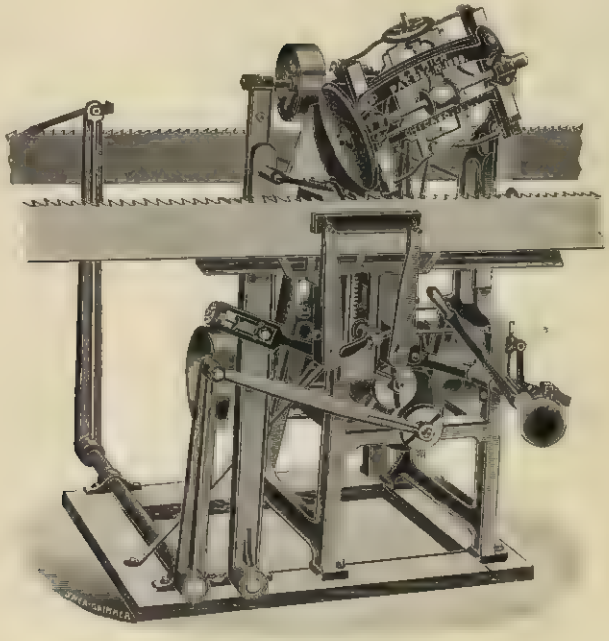
No.	1	2	3	4	5
Per Gross.	$1 00	3 75	4 50	4 75	5 00

HALF GROSS IN A BOX.

SAW GUMMER.

"RICH."

Fig. 1733.



Description.

This Machine is for sharpening and gumming Band or Circular Saws. It can be used by hand when for Circular Saws, the change being made in one-half minute by slackening set screw in small pinion on back counter shaft. When for Band Saws you have no pulleys to make to hold up the saw, for we furnish a rocker shaft and extra pall lever and brackets with bolts to hold up saw.

When ordering for Band Saws, give hand of mill and state if for one or two mills, also if saw is to straddle machine or go in front.

The Band or Gang Machine has patent adjustable stop for feed pall to come against (see wheel and screw at end of carriage) and by its use the saw is always fed even to face of wheel, no matter how hard or light it feeds through the clamps. The clamp is made to remove when putting in or taking out saws.

All of our machines for Band Saws are provided with our improved pull back attachment. This is *something* new and is a decided advantage on any machine. It is designed to pull the saw up to emery wheel, after same is down in throat of tooth, thus avoiding excessive grinding on front of tooth at the point.

Our recent improvement of eccentric gearing is a most *valuable addition* to the machine. It allows the wheel to grind slowly up to the back of the tooth, thus preventing case hardening of the points of teeth.

Directions:—After you get the saw on the Automatic Saw Sharpener, adjust the travel of the pall to shove the saw $\frac{1}{16}$ of an inch from face of wheel, and to go back within $\frac{3}{4}$-inch of dropping over the second tooth. Then see that the shoe on under side of pall is on the adjustable rest and that the pall comes against the straight part of the tooth, *not in the throat*, then run on the belt and move the adjustable stop to come just hard enough against the stop to cause the emery wheel to grind the face of tooth.

Run counter shaft that has the 12-inch tight and loose pulleys 175 for Band Saws.

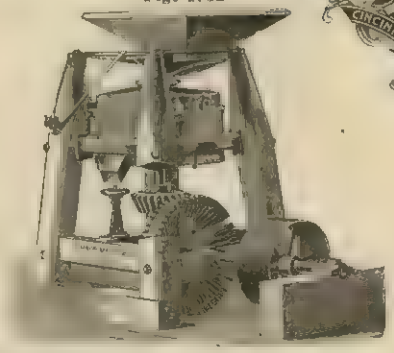
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PORTABLE GRINDING MILLS.

STRAUB.

Fig. 1781

Fig. 1782



For Corn, Wheat or any Kind of Grain.

In the "Queen of the South" the under stone is the runner, and being rigid on the spindle, the stones can not strike when running empty, which is a great advantage over any cock head mill. Special care is taken to put the runner in perfect balance and stones in face, therefore they will always grind cool. They can be run at a very high speed without fear of choking, and will grind under almost any situation or motion. They are so constructed that, if desired, they can be taken apart without difficulty, and having been lately improved, we claim it is the simplest, handsomest and most durable mill in the market.

Grain of any kind after being properly ground should be discharged as soon as possible. The shorter time it is retained between the stones the cooler and more even the grinding. The dress which we use is so arranged that the meal is discharged soon as properly reduced. Flour or meal, when ground cool, will keep fresh much longer. The "Queen of the South," will grind cooler than any cock head mill made. We build them especially for grinding cotton seed oil cake. The pulley mill is driven direct from the spindle, the geared mill by pulley on countershaft. We can furnish both gears of iron, or (mortise gears) the pinion of iron and wheel of iron filled with wood cogs. The cogs of the mortise gears are machine dressed and run noiseless.

SIZES, DIAMETERS AND SPEEDS.					CAPACITIES AND PRICES.							
SIZE OF MILL	Diam of Pulley	Proportion of Gearing	Width of Belt	Speed of Pulley per minute	UNDER RUNNER	Power Required	Capacity per Hour	Estimated Weight		Pulley Mill.	Geared Mill Iron Wheel	Geared Mill, Mortise Wheel
								per set	crated			
15 inch Pulley	10		6	500	15 in Mill	2 H P	4 to 8 bush.	600	800	$110 00	$135 00	$150 00
15 inch Geared	16	22x45	6	250	18 " "	4 "	10 " 12 "	700	900	130 00	165 00	190 00
18 inch Pulley	12		8	500	22 " "	6 "	12 " 15 "	800	1000	165 00	195 00	220 00
18 inch Geared	16	22x45	8	250	24 " "	7 "	14 " 18 "	1000	1450	175 00	210 00	235 00
22 and 24 in Pulley	12		8	500	26 " "	8 "	15 " 20 "	1100	1500	185 00	220 00	245 00
22 " 24 " Geared	16	22x45	8	250	30 " "	10 "	20 " 25 "	1400	1700	225 00	255 00	280 00
26 inch Pulley	16		8	450	36 " "	12 "	25 " 30 "	1700	2000	315 00	355 00	380.00
26 inch Geared	18	25x45	8	225								
30 inch Pulley	18		9 or 10	450								
30 inch Geared	20	30x59	9 or 10	225								
36 inch Pulley	20		10 or 12	400								
36 inch Geared	20	31x60	10 or 12	200								

THE "STRAUB" IRON GRINDER.

For grinding Corn and Cob, Cotton Seed, Cotton Seed Meal and all kinds of feed. Grinding Discs of Chilled Cast Steel and are furnished for Ear Corn, small Grain or Cotton Seed, as ordered.

The "Straub" Iron Grinder is made in three sizes, as shown in table, and will suit almost any power or give any desired capacity. The mill is a pronounced success, and is placed with responsible parties on ten days' trial, with the privilege of returning at customer's expense, if not entirely satisfactory.

An extra set of discs furnished with each mill without extra charge. For full descriptive catalogue and further particulars, write the undersigned from whom you can also obtain Straub's well-known "Queen of the South" and "Gem of the South" French Buhr Mills.

Size.	Horse Power Required.	Capacity Buhr per Hour.	Weight.	Speed per minute.	Pulley.	Extra Discs.	Price at Factory.
6	2 to 4	4 to 8	150	300 to 700	11 x 4 in.	$1 50	$35 00
10	4 to 8	6 to 14	300	300 to 700	14 x 4 in	2 00	60 00
13	8 to15	12 to 25	500	200 to 600	16 x 6 in.	4 00	90 00

Rochester Table Lamps.

No 9459

NO.	DESCRIPTION.	DOZEN
9459	Junior Rochester Lamp, with 6 inch Shade, Tripod and Chimney, Polished Brass	$15 25
9460	Same without Shade, Tripod or Chimney, Polished Brass,	12 60

Height, 8¼ inches. Takes Junior Rochester Chimney and Wick.

Nos. D9461 and D09461

NO	DESCRIPTION	DOZEN.
D9461	Miller No. O Parlor Lamp as shown above, complete with Chimney and 6 inch Shade and Tripod, Polished Brass,	$19 00
D09461	Same as above, but Nickel Plated,	13 90

Height, 9½ inches. With Chimney Lift and Screw Wick Movement. Takes Junior Rochester Chimney and Wick.

No D9459

NO	DESCRIPTION	DOZEN
D9459	Junior Rochester Lamp with 6 inch Shade, Tripod and Chimney, Nickel Plated,	$16 20
D9460	Same without Shade, Tripod or Chimney, Nickel Plated,	13 40

Height, 8¼ inches. Takes Junior Rochester Chimney and Wick.

No 9449

NO.	DESCRIPTION.	EACH.
9449	Rochester Lamp, as above, No. 1 Rochester Burner, Polished Brass.	$1 95

Cast Handles and Feet. Height, 8¾ inches. Takes No. 1 Rochester Chimney, Wick and Tripod.

No. D9462

NO.	DESCRIPTION	DOZEN.
D9462	Juno Hotel Lamp, as shown above, all Metal, Gold Bronze Finish,	$10 25

Height, 6¼ inches. Takes Junior Rochester Chimney and Wick.

Student Lamps.

Nos. 6881 to 6884.

NO.	DESCRIPTION	EACH.
6881	Nickel Plated Perfection Student Lamp, complete with 7 inch White Shade, as shown above,	$5 20
6882	Same, with Green Cone Shade, with White Lining,	5 55

Takes No. 1 Student Chimney and No. 1 Perfection Wick.

No. 6883

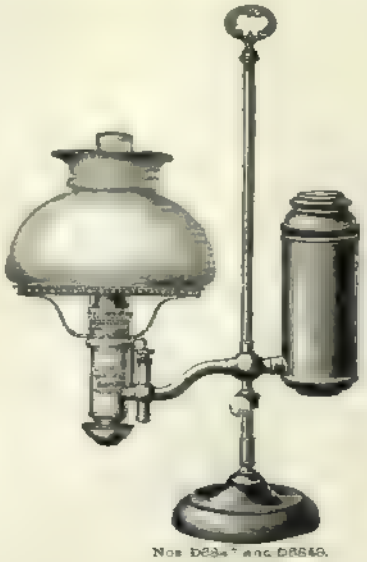
NO.	DESCRIPTION	EACH.
6883	Nickel Finish Student Bracket Lamp, complete with 7 inch White Shade, as shown above,	$5 55

Takes No. 1 Student Chimney and No. 1 Perfection Wick.

Nos. D6888 and D6889.

NO.	DESCRIPTION.	EACH
D 6888	Polished Brass Miller Student Lamp, complete, as shown above, with 10 inch Gold Inlaid Shade,	$12 50
D 6887	Same as above, without shade,	11 10
D 6888	Same, Nickel Plated, complete, as shown above, with 10 inch Gold Inlaid Shade.	13 00
D 6889	Same, Nickel Plated, without Shade,	12 50

With No. 2 Miller Center Draft Lift Burner. Detachable Elevated Fount. Can be adjusted to any desired height. Height to top of Handle 21¾ inches. Takes No. 2 Rochester Chimney and Wick.



Nos. D6847 and D6849.

NO	DESCRIPTION	EACH
D 6847	Polished Brass No. 0 Miller Student Lamp, complete, as shown above, with 7 inch White Dome Shade.	$5 55
D 6848	Same, but with Green Dome Shade, with White Lining,	6 00
D 6849	Same, Nickel Plated, complete, as shown above, with 7 inch White Dome Shade,	6 00
D 6850	Same, but with Green Dome Shade, with White Lining,	6 50

With No. 6 Miller Center Draft Burner. Detachable Elevated Fount. Holds over 1 Pint of Oil. Can be adjusted to any desired height. Height to top of Handle, 20½ inches. Takes Junior Rochester Chimney and Wick.

ROCK DRILLING AND WELL TOOLS.

"Z" DRILL.

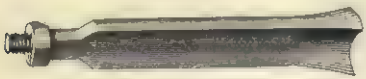
3-inch.....$20 00 5-inch.....$28 00 7-inch.....$43 00
4-inch..... 24 00 6-inch..... 35 00 8-inch..... 51 00

Larger than the above made at proportionate rates.

CLUB DRILL.

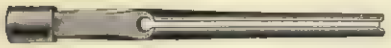
3-inch.....$20 00 5-inch.....$28 00 7-inch.....$43 00
4-inch..... 24 00 6-inch..... 35 00 8-inch..... 51 00

REAMER.



3-inch.....$20 00 5-inch.....$28 00 7-inch.....$43 00
4-inch..... 24 00 6-inch..... 35 00 8-inch..... 51 00

ROPE SOCKET.



For 2 -inch Drill Rod..$ 7 50 For 3½-inch Drill Rod..$16 00
For 2½-inch Drill Rod . 10 00 For 4 -inch Drill Rod . 20 00
For 3 -inch Drill Rod . 13 00

EYE LOOP—For Drill Rod.

For 2½-inch Rod.....$ 8 00 For 3½-inch Rod.....$15 00
For 3-inch Rod..... 12 00

33. BRASS SAND PUMP.

Fitted for ¼-in. gas pipe, for 1¼-in. Drive Well Point.....$2 50
Fitted for ½-in. gas pipe, for 1¼-in. Drive Well Point..... 3 50

SAND PUMP, OR MUD BUCKET. Wrought Iron.

3-inch diameter, 5 feet long.....$4 00
4-inch diameter, 5 feet long..... 5 00
6-inch diameter, 4 feet long..... 6 50
6-inch diameter, 4 feet long..... 8 00

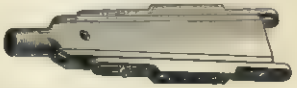
DRILL JARS.

Jars for 2 -in. drill rod, 15 to 18-in. stroke.....$27 00
Jars for 2½-in. drill rod, 15 to 18-in. stroke..... 35 00
Jars for 3 -in. drill rod, 15 to 18-in. stroke..... 40 00
Jars for 3½-in. drill rod, 15 to 18-in. stroke..... 50 00
Jars for 4 -in. drill rod, 15 to 18-in. stroke..... 60 00
Slab Jars for 3-in. drill rod, 15 to 18-in. stroke..... 87 00
Slab Jars for 4-in. drill rod, 15 to 18-in. stroke..... 100 00

ROPE GRAB.

To fish for rope when broken off and lost in the hole.
Price, with Eye to attach to rope.....$5 00

EXPANSION PIPE PULLER.



Pipe sizes,	2	2½	3	3½	4	5	6	7	8
Price	$3 50	4 00	5 50	6 50	8 00	10 00	12 50	15 50	18 50

DRILL RODS, OR SINKER BARS.

Diameter, inches	2½	2¾	3	3	3½
Length, feet	16	18	14	16	12
Price	$30 00	35 00	37 00	40 00	45 00

SPRING GRAPPLE.

For lifting Drills, Drill Rods and Jars that have unscrewed and been lost in hole, also broken pieces of steel, rods, knuckles or other small objects that have fallen into the hole.

For 1 -inch Rod.....$5 00 For 2 -inch Rod.....$ 9 00 For 3 -inch Rod.....$14 00 For 4-inch Rod.....$22 00
For 1½-inch Rod..... 7 00 For 2½-inch Rod..... 11 00 For 3½-inch Rod..... 17 00

LIFTING AND HOLDING TONGS.

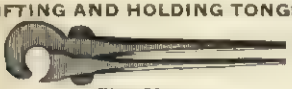


Fig. 33.

SLIDING TONGS.

Fig. 30.

	For 300-ft. Wells.	For 500-ft. Wells.	For 1000-ft. Wells.
For ¾-inch Pipe	$ 5 00	$	$
For 1 -inch Pipe	6 00		
For 1¼-inch Pipe	7 50	8 00	10 00
For 1½-inch Pipe	8 00	10 00	12 00
For 2 -inch Pipe	10 00	12 00	14 00

DRILL WRENCH.

Made of best Tennessee Iron, and shaped to fit rods of any make.

For 2½-inch Drill Rod.....$5 00
For 3 -inch Drill Rod..... 6 00
For 3½-inch Drill Rod..... 7 00

EARTH AUGERS.

Fig. 63.

Fig. 1022.

Fig. 547.

Fig. 232.

Fig. 25.

B. A.

Fig. 62.

Fig 63 is for boring in sandy or caving ground. When filled, the loose casing drops down and holds the dirt

Fig 1022 is a spiral steel auger, braced with parallels to increase its strength for boring in hard clay.

Figs. 547 and 62 are for boring very hard clay, slate and soap-stone.

Fig. 232 is for boring in soft clay.

Figs. 25 B and 25 A are for boring among and taking out cobble stones.

Diameter auger will bore, inches	2½	3	4	5	6
Figure 63	$10 00	12 00	15 00	20 00	30 00
Figure 1022, (larger than 7" $7.50 per inch)	.....	.....	15 00	24 00	36 00
Figure 547, heavy tool steel Twist Auger	13 00	16 00	24 00	40 00	50 00
Figures 232, 25 B, 25 A, 62	6 00	7 00	10 00	15 00	25 00

HYDRAULIC AND JETTING DRILLS.

Made of Best Tempered Tool Steel.

Fig. 169.

Fig. 729.

Fig. 172.

Fig. 173.

Fig. 175.

Size of Bit	2-inch.	2½-inch	3-inch.	4½-inch	6-inch.
Fig. 169, Round Drill, either ball or bolt valve	$5 00	6 00	7 00	12 00	18 00
Fig 173, Spiral Drill, with leather valve	4 50	5 50	6 60	10 00	13 00
Fig 172, Hydraulic Z Drill	6 00	7 00	8 00	12 00	14 00
Fig. 175, Enlarging Drill	6 00	.....	8 50	10 00	20 00

Above listed tools can be threaded on shank for pipe connection desired. Usually threaded for 1¼ inch unless otherwise specified.

FIG. 729 SAND PUMP AND DRILL COMBINED.

Pipe Connection, Inches	1	1	1	1¼
Size of Bit	1¾	2	2½	3
Price	$1 25	2 50	4 50	6 50

Shot Pouches.

Russet.

NO.	DESCRIPTION	PER DOZEN
202½	2½ lb. Irish Charger, Dead Game,	$4 00
102½	2½ lb Lever Charger, Plain Leather	6 75
103	3 lb. Lever Charger, Plain Leather,	7 65
302½	2½ lb. Lever Charger Dog and Tree,	7 65
104	4 lb. Lever Charger, Plain Leather,	8 50
303	3 lb. Lever Charger, Dead Game,	8 50
304	4 lb. Lever Charger, Dog and Tree,	9 50

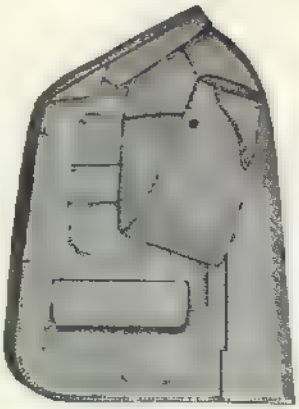
Shot Belts.

Russet.

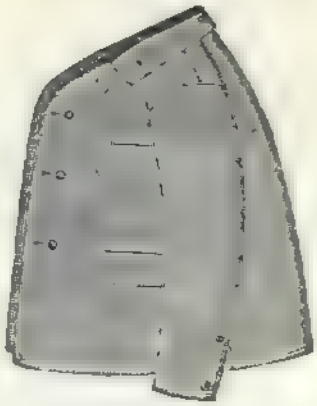
No. 400. No. 403. No. 405

NO	DESCRIPTION.	PER DOZEN.
400	Single Belt, End Strap Buckled, Irish Charger Top,	$8 75
403	Double Belt, End Strap Buckled, Irish Charger Top,	7 25
403	Double Belt End Strap Buckled, Capewell Charger Tops,	18 60
405	Double Oregon Belt, End Buckle Strap with Two Lever Chargers 1 to 1¼ oz.	21 60

Hunting Coats.



Representing Nos 28 and F



Dogskin.

Black Leather

Canvas.

NO.	DESCRIPTION.	EACH
10	Made of Drill with Inside Game Pockets and Three Outside Pockets	$0 90
15	Made of Duck, Corduroy Collar, Flannel Lined Inside Game Pockets and Five Outside Pockets,	1 25
20	Made of Heavy Duck, with large Game Pockets, entrance at the edge, Seven Outside Pockets and One extra Inside Safety Pocket, double stitched and re-inforced,	1 90
18	Fine Heavy 8 oz Woodbury Duck, Corduroy Lined Collar and Cuffs Adjustable Straps on Cuffs Large Game Pockets with entrance at back and edges, Six Outside Pockets, edges and seams double stitched and shoulders re-inforced,	2 75
21	Fine Heavy 8 oz Woodbury Duck with Large Game Pockets, entrance at back and edges, Six Outside Pockets, Corduroy Collar and Adjustable Lined Cuffs, double stitched, re-inforced and bound with leather,	3 00
26	Finest Double Twist 10 oz Woodbury Waterproof Duck Corduroy Lined Collar and Cuffs, with Adjusting Straps on Cuffs Large Game Pockets with entrance at back and edges, Seven Outside and one extra Inside Pocket, edges and seams double stitched and shoulders re inforced,	4 25
27	Corduroy Hunting Coats, Canvas Lined, with Complete Game Pockets	6 00
28	Heavy Imported Corduroy, Canvas Lined Adjustable Straps on Cuffs, edges and seams double stitched and shoulders re inforced, entrance to Game Pockets at back and edge, Seven Outside Pockets,	8 00

Fine Leather Coats.

A	Black Leather Coat, Canton Flannel Lined, Patent Fasteners with Three Large Pockets,	$ 6 00
B	Black Leather Coat, Red Flannel Lined, Patent Fasteners, with three Large Pockets,	7 25
C	Tan Color Dogskin Coat, Red Flannel Lined Patent Fasteners with Three Pockets	8 00
D	Black Leather and Corduroy Coat, Reversible, Patent Fasteners Six Large Pockets	10 50
E	Tan Color Dogskin and Corduroy Coat Reversible Patent Fasteners Six Large Pockets,	13 50
F	Tan Color Dogskin Coat Lined with Corduroy and Canvas, Patent Fasteners, Ventilated Arm Pits, Five Outside and two Inside Pockets and Game Pocket with entrance at back and edges.	11 25

For Sportsmen, Equestrians, Bicyclists or others exposed to cold or wet weather, they are the finest thing made. Give chest measure. Coats are made in seven numbers only, sizes 36, 38, 40, 42, 44 and 46

Grass Hunting Suits.

DESCRIPTION	EACH
Grass Hunting Suits,	$3 50

For Wild Fowl and Upland Shooting Birds at close range made of long tough marsh grass and spun with hooks, they are close fitting and form a perfect concealment. Will wear and stand the storm. Make good waterproofs in rainy weather, are easily packed and carried. Hunters appreciate the value of these suits, as a boat or boat house is necessary when shooting on marshes

that they may select goods for their Christmas trade. The catalogue is dainty in appearance, well prepared, and withal reflects credit upon the company and upon their goods. For the convenience of their Eastern trade samples may be seen and orders sent to 294 Pearl St., New York, where a new store has been opened.

Horseshoers' Anvil

We present herewith two illustrations of anvils, one of which represents an old anvil which has been handed down through

several generations of blacksmiths in Connecticut. The original is said to have been imported from England about 1760.

The larger engraving clearly shows the Horseshoers' anvil manufactured by S. D.

Kimbark, Michigan Ave. and Lake St., Chicago. Great care is exercised in the manufacture of this article, in order to preserve its peculiar features which distinguish it from it from an anvil used for general purposes. The contrast between the two anvils is striking, to say the least.

Combination Bicycle Lock

The Hoffman, Packard, Carter Co., 38 India Wharf, Boston, Mass., are offering the trade the Combination Bicycle Lock illustrated herewith. This is a new device, and is intended to be placed on a bicycle over the chain and sprocket, as shown. When once locked it cannot be removed except by the person having the combination. It is simple in its operation, but safe in use. There is no key or chain to bother or get lost. The lock can also be used in cases where an ordinary padlock is applied. It is handsomely nickle-plated, light in weight, and sells for 50 cents.

* * *

Two mechanics of Rheims, France, have recently completed an invention, which they claim will revolutionize the pneumatic tire for bicycles. They build their wheels by substituting an outer pneumatic tube made of leather for the rubber tubes now in use.

* * *

Solomon remarked that there was "nothing new under the sun," but we believe there is no record of the wise old man riding a wheel. Those, however, who term bicycling a "new" craze are commended to the following passage in a letter written by John Keats to his brother in America in 1819:

"The nothing of the day is a machine called the velocipede. It is a wheel carriage to ride cock-horse upon, sitting astride and pushing it along with the toes, a rudder wheel in hand. They will go seven miles an hour."

* * *

The Germans seem to be reaping the laurels in new methods of incandescent lights. Following the Weisbach incandescent gas light a Berlin man has now in an experimental state a system of producing a similar light from spirits.

Asbestos Sad Irons

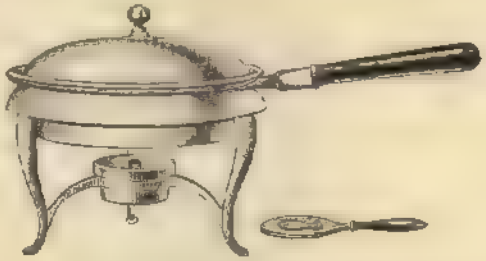
Tverdahl-Johnson Co., Stoughton, Wis., manufacture a line of Asbestos Sad Irons, an illustration of a set of which we present herewith. A set consists of one handle and

cover combined, three cores, and an asbestos mat or stand. The irons are artistic in appearance, well made, and are found satisfactory in use.

Carving Set

Warren & Co., Shelburne Falls, Mass., manufacture the set of cutlery shown in the accompanying engraving, consisting of carver, carver fork and bread knife. The company also manufacture an extensive line of table cutlery of high quality. Their catalogue will be sent to dealers on request.

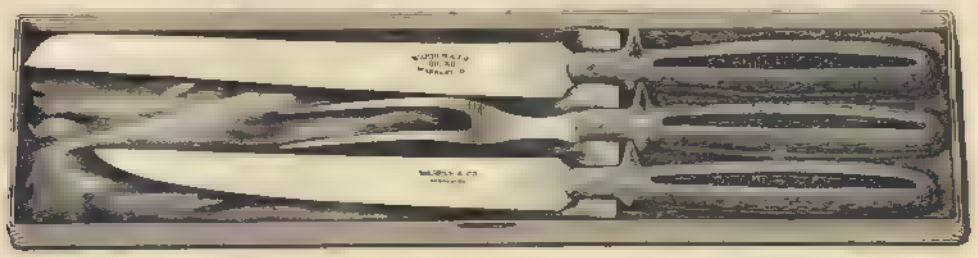
ebony handle. It is made in two lengths, one eleven inches long, suitable for a chafing dish, and the other is about thirteen inches in length, used for cooking. This line of



spoons has met with a large sale on account of their attractiveness, durability and reasonable price.

All the products of the company are polished and finished in every detail as fine as silver. The articles being cast, are strong and stiff and will last a lifetime.

Dealers who are interested are requested to send for the company's catalogue, in order



Aluminum Cast Ware

The Griswold Mfg. Co., Erie, Pa., manufacture a line of Aluminum Cast Ware, of which we illustrate their five o'clock teakettle with lamp and stand, a chafing dish and a cooking spoon. The special feature of these goods is that they are all cast aluminum, each article being solid in one piece. The coffee pots, tea pots and five o'clock tea kettles have the spout, with the strainer in them, cast in the kettle in one solid piece. The five o'clock tea kettles and chafing dishes are equipped with the best and latest pattern of asbestos lamps.

The cooking spoon is finished with a fine

SINGLE-ACTING HOUSE FORCE PUMPS.

Fig. 440.

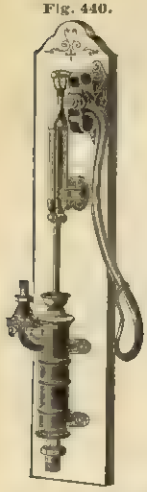


Fig. 440 represents our Single-Acting Suction and Force Pump with brass piston rod, pitman and guide, mounted on a plank for in-door use.

Brass suction and discharge tubes are threaded for wrought-iron pipe unless otherwise ordered.

No	Diam. Cyl.	Suc. and Dis.	Gal. per Stroke.	Iron. Price.	Brass Cyl Price.	Brass Price
0	2 in.	1 in.	1-10	$14 00	$19 00	$26 00
2	2½ "	1¼ "	1-7	15 00	20 00	30 00
3	2¾ "	1¼ "	1-6	15 75	21 00	33 00
4	3 "	1¼ "	1-5	16 50	22 00	35 00
5	3½ "	1½ "	1 4	20 00	25 00	40 00
6	3½ "	1½ "	3-10	22 00	32 00	45 00

Fig. 442.

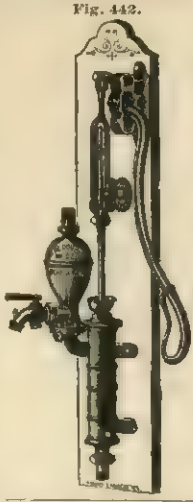


Fig. 442 represents our Single-Acting Suction and Force Pump, similar to Fig. 440 with addition of air chamber and cock spout.

Brass suction tube fitted for wrought-iron pipe unless otherwise ordered.

No.	Diam. Cyl.	Suc. and Dis.	Gal. per Stroke.	Iron. Price.	Brass Cyl Price.	Brass Price
0	2 in.	1 in.	1-10	$18 00	$27 00	$35 00
2	2½ "	1¼ "	1-7	19 00	28 00	37 00
3	2¾ "	1¼ "	1-6	20 00	29 00	40 00
4	3 "	1¼ "	1-5	22 00	30 00	42 00
5	3½ "	1½ "	1 4	26 00	34 00	49 00
6	3½ "	1½ "	3 10	28 50	37 50	56 00

DOUBLE-ACTING HOUSE FORCE PUMPS.

Fig. 271.

Fig. 271 represents our Double-Acting Force Pump, mounted on plank for in-door use, it has brass piston-rod, and can be fitted for either right or left hand use. Fitted for wrought-iron pipe.

No.	Diam. Cyl.	Suc.	Dis.	Stroke	Gal. per Rev.	Iron. Price	Brass Price
0	2 in.	1¼ in.	1¼ in.	7 in.	1 5	$13 50	$26 00
1	2½ "	1½ "	1½ "	7 "	1-4	14 00	28 00
2	2½ "	1½ "	1½ "	7 "	2-7	17 00	38 00
3	2¾ "	1½ "	1½ "	7 "	1-3	19 00	45 00
4	3 "	1½ "	1¼ "	7 "	2-5	21 00	52 00
6	3½ "	1½ "	1½ "	8 "	2 3	25 00	69 50
8	4 "	2 "	2 "	8 "	4-5	87 00	94 00
10	4½ "	2½ "	2½ "	8 "	1	50 00	146 00

Fig. 273.

Fig. 273 is similar in construction to Fig. 271 with the addition of air chamber and cock spout. These Pumps can be used on wells from 20 to 25 feet in depth, and will force water almost any distance.

No.	Diam. Cyl.	Suc.	Dis.	Stroke	Gal. per Rev	Iron. Price	Brass Price
0	2 in.	1¼ in.	1¼ in.	7 in.	1 5	$18 00	$33 00
1	2½ "	1½ "	1½ "	7 "	1-4	18 50	35 00
2	2½ "	1½ "	1½ "	7 "	2-7	22 00	45 00
3	2¾ "	1½ "	1½ "	7 "	1-3	23 50	52 00
4	3 "	1½ "	1½ "	7 "	2-5	25 50	59 00
6	3½ "	1½ "	1½ "	8 "	2 3	31 00	78 00
8	4 "	2 "	2 "	8 "	4-5	45 00	103 00
10	4½ "	2½ "	2½ "	8 "	1	68 00	146 00

GOULD'S PUMP CYLINDERS OR WORKING BARRELS.

Screw Attach

Fig. 609.

Fig. 609. Gas Set Pump Cylinders. "A" Plungers.

No.	Size.	Stroke.	Capacity per Stroke.	Fitted for	Well Rod	Lift and Force.	Iron	Brass Body & Plunger	All Brass
							Price	Price	Price
1	2¼ x 10 in	6 in	10 gal	1 in. pipe	⅝ in.	40 ft.	$4 00	$ 7 [illegible]	$ [illegible] 0
2	2½ x 10 "	6 "	13 "	1¼ "	⅝ "	50 "	4 30	8 00	12 75
3	2¾ x 10 "	6 "	16 "	1¼ "	⅝ "	50 "	4 70	8 50	13 75
4	3 x 10 "	6 "	18 "	1½ "	⅝ "	40 "	5 00	9 00	15 50
6	3½ x 10 "	6 "	25 "	1½ "	⅝ "	40 "	5 60	10 50	17 75
8	4 x 10 "	6 "	32 "	2 "	½ "	40 "	6 50	14 00	21 00

Shallow Well Pump Cylinders. "B" Plungers.

0	2 x 14 in	10 in	14 gal	1 in. pipe	⅝ in	75 ft.	$ 6 00	$ 9 75	$13 00
1	2¼ x 14 "	10 "	17 "	1 "	⅝ "	75 "	6 25	10 25	14 00
2	2½ x 14 "	10 "	21 "	1¼ "	⅝ "	75 "	6 50	10 50	14 75
3	2¾ x 14 "	10 "	25 "	1¼ "	⅝ "	75 "	7 00	11 25	15 50
4	3 x 14 "	10 "	30 "	1¼ "	⅝ "	50 "	7 50	11 75	16 25
6	3½ x 14 "	10 "	41 "	1½ "	⅝ "	40 "	8 50	14 75	21 00
8	4 x 14 "	10 "	54 "	2 "	⅝ "	50 "	11 00	19 00	26 50
10	4½ x 14 "	10 "	69 "	2 "	⅝ "	40 "	15 00	28 00	36 00
12	5 x 14 "	10 "	85 "	2½ "	⅝ "	40 "	20 00	38 00	50 00
16	6 x 14 "	10 "	1.22 "	3 "	⅝ "	30 "	25 00	56 00	70 00

Outside Attach.

Fig. 613.

Figs. 613, 614. Deep Well Pump Cylinders. "C" Plungers.

0	2 x 16 in	10 in	14 gal.	1 in. pipe.	⅞ in.	200 ft.	$ 6 00	$ 10 50	$ 13 75
1	2¼ x 16 "	10 "	17 "	1 "	⅞ "	200 "	6 50	11 25	14 50
2	2½ x 16 "	10 "	21 "	1¼ "	⅞ "	150 "	7 00	11 75	16 00
3	2¾ x 16 "	10 "	25 "	1¼ "	⅞ "	150 "	7 50	12 25	16 50
4	3 x 16 "	10 "	30 "	1½ "	⅞ "	100 "	8 00	12 75	17 25
6	3½ x 16 "	10 "	41 "	2½ "	1 "	100 "	9 00	16 00	22 25
8	4 x 16 "	8 "	43 "	2 "	1 "	100 "	12 00	20 50	28 00
10	4½ x 16 "	8 "	55 "	2 "	1 "	100 "	16 00	30 50	38 75
12	5 x 16 "	8 "	68 "	2½ "	1 "	100 "	23 00	42 00	53 50
16	6 x 16 "	8 "	.97 "	3 "	1 "	100 "	30 00	62 00	75 00
24	8 x 16 "	8 "	1.74 "	4 "	1 "	75 "	60 00	124 00	150 00

Cylinders Lined With Seamless Brass Tubes.

Fig. 611.

"B" PLUNGER FOR SHALLOW WELLS.

No.	Size Inches	Pipe, In.	Brass Cage and Valve	All Brass Plung.
1	2¼ x 12	1	$ 8 00	$ 9 25
2	2½ x 12	1¼	8 50	9 75
3	2¾ x 12	1¼	9 00	10 50
4	3 x 12	1¼	9 50	11 00
5	3½ x 12	1½	10 00	11 75
6	3½ x 12	1½	10 50	13 00
7	3¾ x 12	1½	11 50	14 25
8	4 x 12	1½	12 50	15 75

"C" PLUNGER, FOR DEEP WELLS.

No.	Size, Inches.	Pipe, In.	Brass Cage and Valve	All Brass Plung
1	2¼ x 16	1¼	$ 9 50	$11 00
2	2½ x 16	1¼	10 00	11 50
3	2¾ x 16	1¼	10 50	12 00
4	3 x 16	1½	11 00	12 75
5	3¼ x 16	1½	11 50	13 75
6	3½ x 16	1½	12 00	14 50
7	3¾ x 16	1½	13 50	16 50
8	4 x 16	1½	15 75	19 00

Fig. 613.

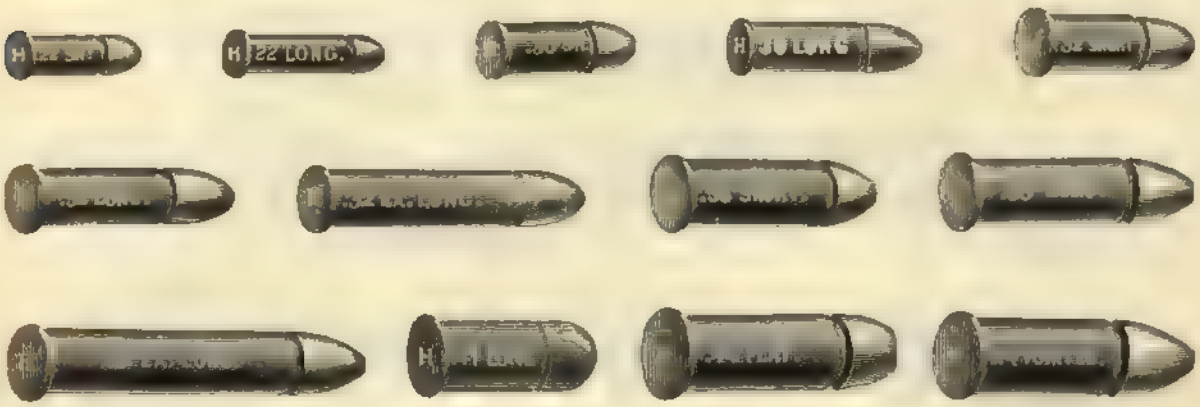
Fig. 624. Deep Well Brass Pump Cylinder. "J" Plunger. Metallic Lower Valve.

Inside Attach.

Fig. 624.

No.	Size.	Stroke.	Capacity per Stroke.	Fitted for	Well Rod.	Lift and Force.	All Brass. Price.
0	2 x 16 in.	8 in.	.11 gal.	1 in. pipe.	⅝ in.	200 ft.	$ 13 00
2	2½ x 16 "	8 "	.17 "	1¼ "	⅞ "	150 "	14 50
4	3 x 16 "	8 "	.24 "	1¼ "	⅞ "	100 "	16 50
6	3½ x 16 "	8 "	.33 "	1½ "	⅞ "	100 "	20 00
8	4 x 16 "	8 "	.44 "	2 "	⅞ "	100 "	26 00
10	4½ x 16 "	8 "	.55 "	2 "	1 "	100 "	33 00
12	5 x 16 "	8 "	.68 "	2½ "	1 "	100 "	40 00
16	6 x 16 "	8 "	.98 "	3 "	1 "	75 "	56 00
0	2 x 20 "	10 "	.14 "	1 "	⅝ "	200 "	16 00
2	2½ x 20 "	10 "	.21 "	1¼ "	⅞ "	150 "	17 50
4	3 x 20 "	10 "	.31 "	1¼ "	⅞ "	100 "	20 00
6	3½ x 20 "	10 "	.42 "	1½ "	⅞ "	100 "	24 00
8	4 x 20 "	10 "	.54 "	2 "	1 "	100 "	31 00
10	4½ x 20 "	10 "	.69 "	2 "	1 "	100 "	40 00
12	5 x 20 "	10 "	.85 "	2½ "	1 "	100 "	50 00
16	6 x 20 "	10 "	1.22 "	3 "	1 "	75 "	65 00
4	3 x 30 "	16 "	.49 "	1½ "	⅞ "	100 "	50 00
6	3½ x 30 "	16 "	.67 "	2 "	1 "	100 "	55 00
8	4 x 30 "	16 "	.87 "	2 "	1 "	100 "	60 00
10	4½ x 30 "	16 "	1.02 "	2½ "	1 "	100 "	67 50
12	5 x 30 "	16 "	1.36 "	3 "	1 "	100 "	75 00
16	6 x 30 "	16 "	1.96 "	3½ "	1 "	100 "	90 00
24	8 x 30 "	16 "	3.48 "	4 "	1 "	75 "	175 00

Rim Fire Cartridges.



Central Fire Cartridges.

Double Action Revolvers.

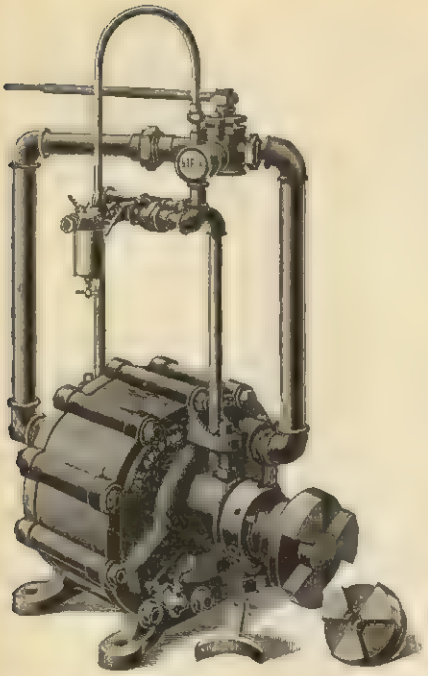
Smith & Wesson's.

Automatic, Regular Hammer.

No.		Each
42.	32 Caliber, 5 Shot, 3 inch Barrel, Nickel Plated, Weight 13 oz.,	$12.00
040.	32 Caliber, 5 Shot, 3 inch Barrel, Blued, Weight 13 oz.,	12.00
44.	38 Caliber, 5 Shot, 3½ inch Barrel, Nickel Plated, Weight 17 oz.,	13.00
044.	38 Caliber, 5 Shot, 3½ inch Barrel, Blued, Weight 17 oz.,	13.00

Automatic, Safety Hammerless.

45.	32 Caliber, 5 Shot, 3 inch Barrel, Nickel Plated, Weight 14 oz.,	13.00
045.	32 Caliber, 5 Shot, 3 inch Barrel, Blued, Weight 14 oz.,	13.00
46.	38 Caliber, 5 Shot, 3½ inch Barrel, Nickel Plated, Weight 18½ oz.,	14.00
046.	38 Caliber, 5 Shot, 3½ inch Barrel, Blued, Weight 18½ oz.,	14.00



SOULE'S STEAM FEED FOR SAW MILLS.

This is a simple and substantial reversible, rotary steam motor. It has no valve gearing nor exposed parts. It runs the same one way as the other; is controlled by one handle attached to a simple 4-way valve in pipe, and according to amount of steam given will move slowly or with great speed.

The movement of the CARRIAGE is entirely independent of the movement of the saw, and is INSTANTLY reversible.

It is lower priced than any other Steam Feed, and is in most respects the best one yet invented.

It is as economical of steam as any, and vastly more so than the majority of those in use. It does not ordinarily require increased boiler capacity when added to old mills, and never takes as much extra steam as is represented by the extra output of the mill over those equipped with any other Feed.

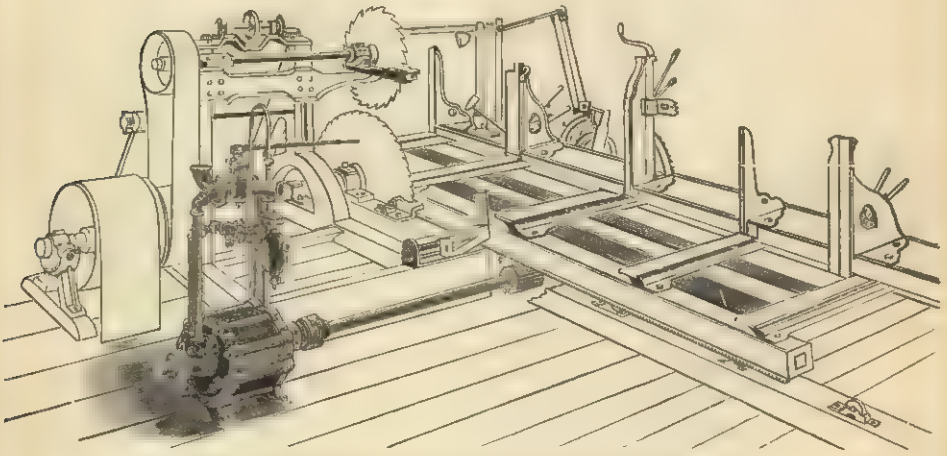
It can be attached to rope feed mills, or to rack and pinion feeds. It does not add materially to the cost of a new mill when made a part of the equipment, and will pay for itself in a few months when put upon an old mill. It is sent out ready to attach to any style of mill, and requires no alteration of either mill or carriage in attaching.

It has but few parts, and these can be instantly duplicated at small expense.

Send for printed matter.

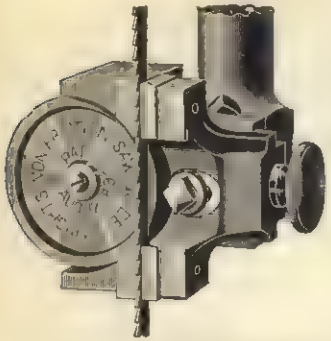
NET PRICES.

		Connecting Pipe.			Connecting Pipe.
Size No. 1	$160 00	1¼ inch	$3 50	Size No. 3 $250 00	2 inch $5 50
Size No. 2	300 00	1½ inch	4 00	Size No. 4 400 00	2 inch 6 00



Size Three Machine.—Attached to Rack and Pinion Double Circular Mill.

WRIGHT'S IMPROVED BAND SAW GUIDE.



This newly improved non-friction saw guide is endorsed by all manufacturers of band sawing machinery. It affords a substantial revolving bearing to the blade, that holds it firmly to its work without danger of crystallizing or injuring the temper. It gives both back and side support to the blade. All adjustments are self-locking, and immovable until re-set by the operator. No wrenches or screw drivers are required to adjust the guide to different widths and gauges of saws.

They are made as upper and under guides, to fit all makes of machines, and for blades from $\frac{1}{8}$" to 10" wide. They will save over 60 per cent. of the wear and breakage of saws as compared with an immovable guide.

Send for circular and instructions about ordering.

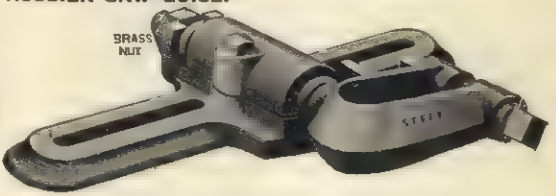
Price $10.00

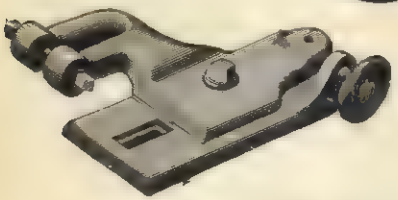
No. 1, FOR ORDINARY MILLS.		No. 2, FOR HEAVY WORK.	
Guide, without Rounder	$ 6 00	Guide, without Rounder	$10 00
Combined Guide and Rounder	10 00	Combined Guide and Rounder	14 00

HOOSIER SAW GUIDE.

This Guide is simultaneous, moving both pins at once in the same direction; hand is twelve inches from the saw teeth when changing; there is no stopping the saw to adjust pins. The pins are held fast by set screws; fork is wide and long, so it will discharge all dust and chips; the base plate has long slots to accommodate large or small saws without changing bolts. Weight, 40 lbs. To change from right to left, take out bolt and turn the Guide over. Will fit any mill, wood or iron frame.

Price $10 00



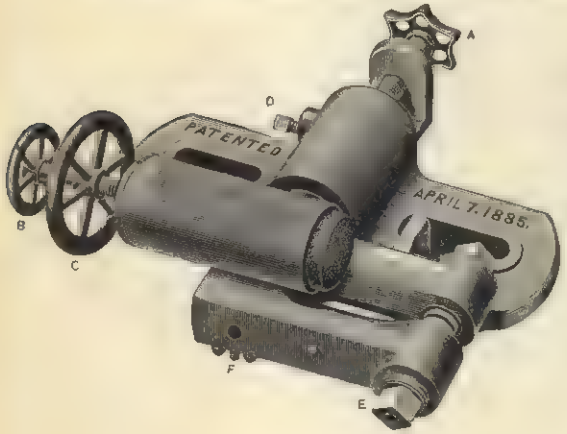


COMMON SAW GUIDE.

This is the Standard Guide used on all our mills. It can be adjusted while saw is in motion. It is the most convenient and the most popular Guide in the market.

Price for Saws to 54 in. Diameter $7 00
" " 64 " " 9 00

PATENT SAW GUIDE AND ROUNDER.



THE GUIDE

Is adjustable and reversible. The adjustment may be accomplished while the saw is in motion. Can be used either on right or left-hand mill. The "rounder" or "jointer" may be detached from the body of the guide, the arms of the guide reversed and the "jointer" affixed to the other side, to be used as before.

THE ROUNDER

Is a new device to "round up" a circular saw effectually and conveniently. To joint the teeth of a saw, the emery block is brought into contact with the saw by means of the hand-wheel.

During the operation, the attendant will turn the hand-wheel from side to side, thereby rotating the emery alternately in opposite directions so as to present a constantly changing surface for action on the saw teeth.

PRICES.

No. 1.	With Rounder	$ 9 00
No. 1	Without Rounder	6 00
No. 2.	With Rounder	13 00
No. 2.	Without Rounder	10 00

Base Ball Sundries.

Worsted Web Belts.

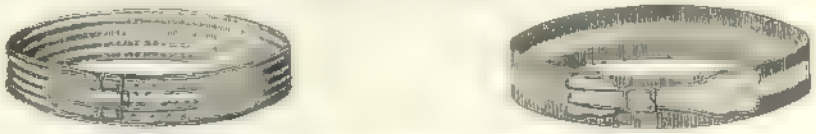
No. 00. No. 0. No. 1.

Made of the best Worsted Web, [illegible] Fast Colors, [illegible] Nickel Plated Buckles.

No. A, Red. No. B, Blue. No. C, Navy Blue. No. D, Brown. No. E, Black.
No. F, White. No. J, Maroon. No. K, Old Gold. No. G, Red, White Edge. No. H, Blue, White Edge.

No.	DESCRIPTION.	Each
00	Worsted Web Belt, 2½ inches Wide, Single Strap, Leather Covered Buc[illegible]	$0 [illegible]
[illegible]	Worsted Web Belt, [illegible] Wide, Double Strap, Leather Covered Buckles,	50
1	Special League Belt, Large Nickel Plated Buckle,	50

Cotton Web Belts.



No. 28. No. 4.

These Belts are made of the best Cotton Webbing [illegible] and warranted fast colors.

No. I, Red. No. L, White. No. V, Navy Blue. No. Q, Blue, White Edge. No. R, Red and White Stripe.
No. M, Blue. No. [illegible], Maroon. No. N, Red, White Edge. No. P, Red, White and Blue. No. S, Blue and White Stripe.

No.	DESCRIPTION.	Each
28	Cotton Web Belt, 2½ inches Wide, Double Strap, Nickel Buckle,	$0 [illegible]
4	Cotton Web Belt, 2¼ inches Wide Single Strap, Nickel Buckle,	[illegible]

Base Ball Stockings.

Our Stockings are all made in same length in every quality and warranted fast colors. Our new Linen sole stockings keep the feet cool and comfortable, are built of the finest linen, and soft and pliable as silk. We can furnish all stockings in the following colors: Red, Navy Blue, Royal Blue, Maroon, White and Brown.

Linen Sole.

No.	DESCRIPTION	Per Pair
00	Heavy Weight Ribbed Stocking, Linen Sole,	$1 25
0	Medium Weight Ribbed Stocking, Linen Sole,	[illegible]

Regular Sole.

No.	DESCRIPTION	Per Pair
3/0	Extra Heavy Wool Stocking, Ribbed, Solid Colors,	$1 50
[illegible]	Same Stocking Striped,	2 00
1	Heavy, All Wool Stocking,	1 00
2	Medium Weight, All Wool Stocking,	75
3	Ordinary Weight Stocking,	50
4	Cotton Stocking,	40

Any of the above Stockings striped to order only, excepting Nos. 3 and 4, and prices quoted on application.

Wool Sweaters.

Sweaters are becoming very popular for all Athletic Sports. We carry three grades, made of pure Lambs Wool.

No.	DESCRIPTION	Each
74	Good Quality, Medium Weight, Colors White and Black,	$[illegible]
76	Fine Quality, Medium Weight, Colors White, Black, Navy Blue and Tan,	[illegible]

No.	DESCRIPTION.	Each.
[illegible]	Extra Quality, Heavy Weight, Colors White, Black, Navy Blue and Tan	$5 [illegible]

No. 1. No. 2.

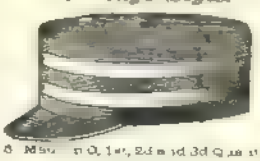
Stocking Supporters.

The most comfortable Hose Supporter made.

No.	DESCRIPTION	Each
1	Shoulder,	$0 [illegible]
2	Waist,	35

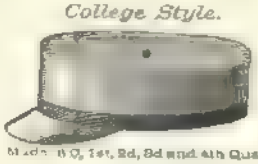
Base Ball Caps.

Chicago Style.



No. 6. Made in O, 1st, 2d and 3d Qualities.

College Style.



No. 21. Made in O, 1st, 2d, 3d and 4th Qualities.

Eton, 4 inch Visor.

No. 21½. Made in O and 1st Qualities Only.

Eton.

No. 4. Made in O, 1st and 2d Qualities Only.

Skull Cap.

No. 10. Made in any of the Five Qualities.

Jockey Style.

No. 1. Made in any of the Five Qualities.

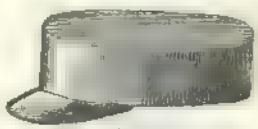
Boston Style.

No. 7. Made in any of the Five Qualities.

Boston Style, with Star.

No. 10. Made in any of the Five Qualities.

Cheap Felt Caps.



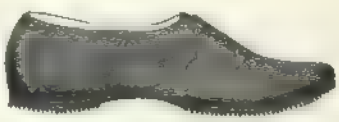
Nos. 121 and 122.

QUALITY.	DESCRIPTION.	PER DOZ.
O	The [illegible] are made from the same Flannel we use in League Uniforms. Colors, White, Pearl Gray, [illegible] Dk. Brown Mixed, Yale Gray, Black, Scarlet, Gray, Large Check, Dark Steel Mixed, Cream, Brown, Navy Blue, Maroon, Royal Blue and Old Gold.	$1 00
1st	Colors, White, Cardinal, Dark Mixed, Shaker Gray, Light Gray, Navy Blue, Dark Brown, Maroon, Royal Blue, Old Gold, Scarlet, Dark Green, Black, Steel Mixed and Pearl Gray,	75
2d	Colors, White, Cardinal, Shaker Gray, Steel Mixed, Navy Blue, Scarlet, Black, Maroon, Royal Blue, Royal Blue, Old Gold,	65
3d	Colors, White, Mixed, Cream Gray, Dark Gray, Light Brown, Light Gray, Maroon, Black, Royal Blue, Scarlet, Navy Blue,	50
4th	Colors, White, Pearl Gray, Light Gray, Dark Gray, Scarlet, Medium Gray and Royal Blue,	40
No. 121	Colors, White, Red or Royal Blue, Lined,	25
No. 122	Colors, White, Red or Royal Blue, Unlined,	15

Our [illegible] are guaranteed [illegible] Quality, Style and Workmanship. We make them in Five Different Grades and he various styles [illegible] only as indicated under each style Cap. When ordering, be sure and state NUMBER, QUALITY and Color desired.

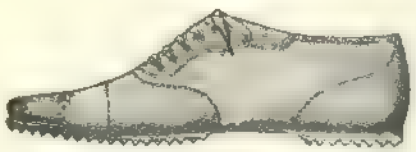
Base Ball Shoes.

No. 24.



No. [illegible]

NO.	DESCRIPTION.	PER PAIR.
240	Men's and Ladies' Cheap Canvas Tennis Slippers, Rubber Sole,	$1 15
345	Men's or Ladies' Fine Canvas Tennis Slippers, Rubber Sole, Colors, White, Red, Blue, Light Tan,	1 [illegible]



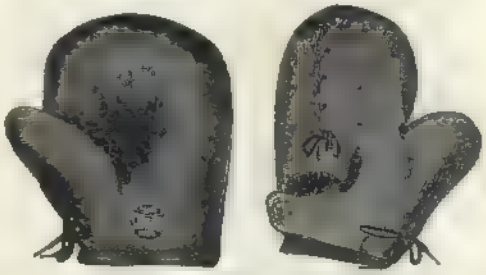
No. 280.

Nos. 130 and 127.

NO.	DESCRIPTION.	PER PAIR.
280	Men's Fine Tan Canvas Shoe, Cork Insole, Rubber Heel, Fine quality Rubber Sole,	$3 00
127	Ladies' Tan Canvas Shoe, Fine Quality Rubber Sole, Light and Durable for Fine Play,	4 00
130	Gentlemen's Canvas Shoe, Laced, Hand-sewed and Warranted, a Fine Shoe Made with [illegible] Plates,	5 00

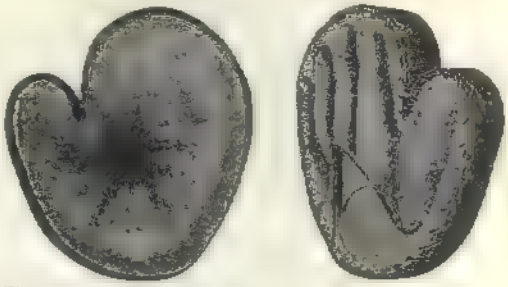
Spalding's Catchers' Mitts.

Spalding's Kennedy Patent Mitts



NO.	DESCRIPTION	EACH
8/0	Made of Finest Drab Buckskin, well Padded, and Steel Frame around fingers and thumb, affording Absolute Protection against Broken Fingers. Back and Thumb Laced giving opportunity to change padding to suit [illegible]	$10 00

Spalding's Special League Mitts



NO.	DESCRIPTION	EACH.
[illegible]0	Front, Sides and Hand of Extra Fine and Special Tanned Deerskin, the Back of Best Quality Selected Hogskin, Thumb Lined to correspond, so that Padding may be contracted to suit the Wearer. This Mitt is recognized as the Finest Protection for the hand ever made. Patent Short-fingered Throwing Glove with each Mitt.	$7 50

Spalding's Professional Mitts

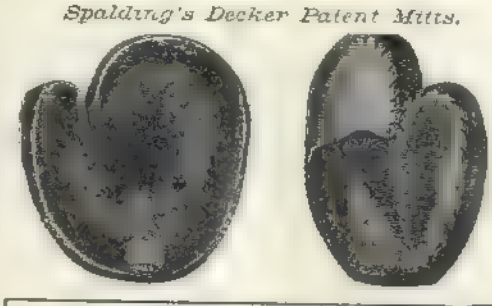
Morrill Style

NO.	DESCRIPTION	EACH
6/0	Made throughout of Finest Quality Drab Buckskin, Non-Padded, and Edges Bound with Muslin. Flannel added to Palm to prevent Stinging. A Soft, Easy Fitting and Durable Mitt.	$6 00

Spalding's League Mitts.

NO.	DESCRIPTION	EACH
5/0	Made of Fine Selected Buckskin throughout, and Laced Edges, adjustment of Padding. A very soft and pliable Mitt with Patent Fingerless Throwing Glove.	$5 00

Spalding's Decker Patent Mitts.



NO.	DESCRIPTION	EACH
0X	Front, Sides and Hand Piece made of Velvet Tanned Deerskin, the Back of Fine Selected Hogskin. Laced all around, with Sole Leather Back for Extra Protection to the Fingers, and well Padded. Patent Fingerless Throwing Glove with each Mitt.	$7 50

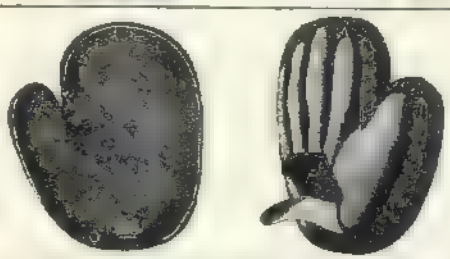
Spalding's Mitts

NO.	DESCRIPTION	EACH.
[illegible]	Front, Sides and Hand Piece made of Velvet Tanned Deerskin, the Back of Fine Hogskin. Well Padded and Laced all around to allow adjustment of Padding. Patent Fingerless Throwing Glove with each Mitt.	$3 00

Spalding's Base Ball Mittens.

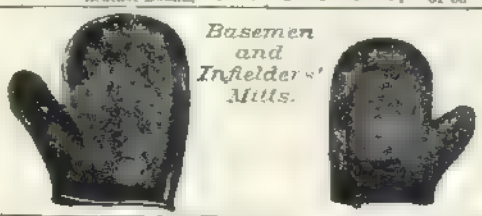
Catchers' Mitts.

NO.	DESCRIPTION	EACH
A	Made of Extra Quality Leather, Heavily Padded with Felt and Laced to allow Adjustment of Padding. Patent Throwing Glove	$5 00



NO.	DESCRIPTION	EACH
3	Front, Sides and Back of Brown Grained Leather, Hand Piece of Yellow Tanned Sheepskin, Well Padded and Laced All Around for Adjustment of Padding. Edges Leather Bound,	$1 00

Basemen and Infielders' Mitts.



NO.	DESCRIPTION	EACH
3X	Made of Finest and Softest Light Colored Buckskin, Edges and Hand Piece Morocco Bound, Fine Felt Padding. A Very Easy Fitting and Pliable Glove. One Mitt only, made in Rights or Lefts,	$3 00

NO.	DESCRIPTION	EACH
4X	Made of Very Finest Tanned Buckskin, Edges and Hand Piece Morocco Bound. A Very Soft and Pliable Mitt. Fine Felt Padding. One Mitt only, made in Rights or Lefts,	$2 00
5X	Made of Cold Tanned Leather, Well Padded, Edges Leather Bound. One Mitt only, made in Rights or Lefts,	1 00

Boys' Catchers' Mitts.

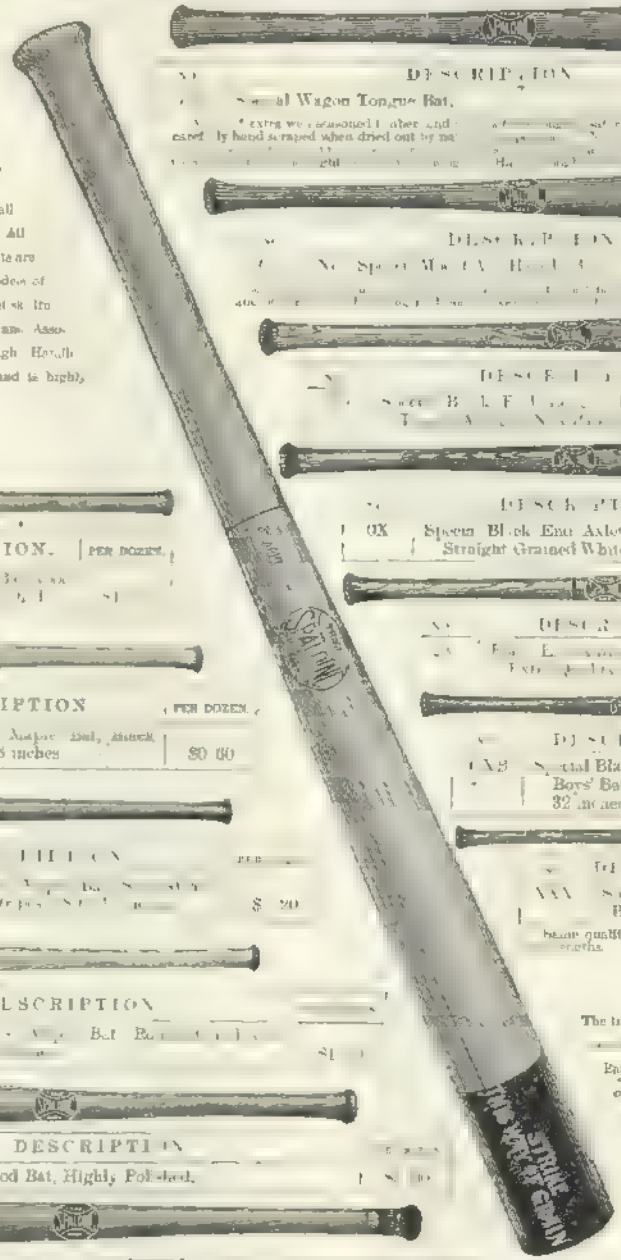
NO.	DESCRIPTION	EACH
OXB	Decker Patent, Front, Sides and Hand Piece made of Velvet Tanned Brown Buckskin, the Back of Fine Smoked Buckskin. Laced All Around, with Separate Leather Back Piece for Extra Protection to Fingers, and Well Padded. Patent Throwing Glove with each Mitt.	$2 00

NO.	DESCRIPTION	EACH.
2	Made Throughout of Yellow Tanned Buckskin, Well Padded, with Lacing All Around to allow Adjustment of Padding. Edges Leather Bound. Throwing Glove with each Mitt,	$1 50

NO.	DESCRIPTION	EACH.
1	Grain Leather Front and Back, with Yellow Tanned Leather Hand Piece, Leather Bound, Nicely Padded, with Lace All Around for Adjustment of Padding. No Throwing Glove.	$0 50

NO.	DESCRIPTION	EACH.
5	Leather Front with Canvas Back, Leather Bound, Nicely Padded, Strong and Substantially Made. No Throwing Glove,	$0 25

Spalding's Trade Mark Bats.



Trade Mark Bats

Are used almost exclusively by all prominent professional players. All the Wagon Tongue and League Bats are hand turned and made from models of Bats designed and used by most skillful players in the National League and Association. The New Rough Handle is a firmer grasp on Bat and is highly endorsed.

No.	DESCRIPTION.	PER DOZEN.
3B	Black End Boys' Bat, [illegible]	[illegible]

No.	DESCRIPTION	PER DOZEN.
4	Black End Boys' Antique Bat, Assorted Stripes, 26 to 28 inches	$0 60

No.	DESCRIPTION	PER DOZEN.
3	Black End Boys' Bat, [illegible]	$1 20

No.	DESCRIPTION	PER DOZEN.
3	Black End Boys' Bat, [illegible]	$1 [illegible]

No.	DESCRIPTION	PER DOZEN.
	Black End Basswood Bat, Highly Polished.	$1 [illegible]

No.	DESCRIPTION	PER DOZEN.
4	Black End Willow Bat, Highly Polished and the Strongest Light Wood Bat Made.	$1 00

No.	DESCRIPTION	PER DOZEN.
	Special Wagon Tongue Bat, [illegible]	$ [illegible]

Having secured several dozen extra choice selected Ash, cut and cured by hand scraped when dried out by natural process, and [illegible]

No.	DESCRIPTION	PER DOZEN.
	No. Special Model [illegible]	$ [illegible]

No.	DESCRIPTION	PER DOZEN.
	Special Black End, Fine White [illegible]	[illegible]

No.	DESCRIPTION	PER DOZEN.
1 OX	Special Black End Axletree Ba[illegible] Straight Grained White Ash	[illegible]

No.	DESCRIPTION	PER DOZEN.
	Fine [illegible] Bat [illegible]	$3 [illegible]

No.	DESCRIPTION	PER DOZEN.
OXS	Special Black End Axletree Boys' Bat, Length 32 inches,	$1 [illegible]

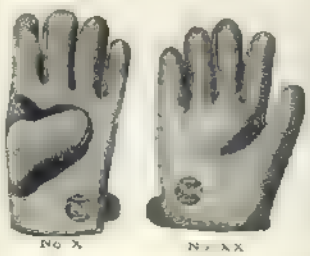
No.	DESCRIPTION	PER DOZEN.
XXX	Special Fine Polished Boys' League Bat	$1 [illegible]

Same quality as the [illegible] but in 30 and 32 inches.

The timber used in all these Bats is seasoned from two to five years, making the Bats stronger and lighter than those of other manufacturers who are hurried [illegible] quality and driving power of the natural wood. The quality is guaranteed.

Base Ball Gloves and Masks.

Basemen and Infielders' G[loves]



No X. No XX

	DESCRIPTION	
X	Spalding's Amateur Infielder or Basemen's Glove. Stage, for [illegible] LEFT HAND	[illegible] 00
XX	Spalding's Best Quality Dra[illegible] Buckskin Infielder or Basemen's Glove, Full Left or Rig[illegible] Hand Soft and Pli[illegible]	[illegible] 00

Short Fingered Gloves

NO.	DESCRIPTION	
[illegible]	[illegible] Yo[illegible] [illegible] Finger C[illegible] [illegible] Back C[illegible] School	[illegible] 50
F	Spalding's Be[illegible] Short Fingered, Cheap, Open [illegible]	[illegible] 00

New Patent Sun Protecting Masks

No. 4 O.

NO.	DESCRIPTION	
[illegible]	[illegible] Masks	[illegible] 00

[illegible] Mask [illegible] made of extra quality [illegible] nickeled wire to prevent the reflection of light, a[illegible] [illegible] a piece of molded [illegible] Mask, which forms a perfect [illegible] [illegible] throughout [illegible] recommend for [illegible] using catchers.

Regulation League Masks

NO.	DESCRIPTION	
[illegible]	Spalding's [illegible]	[illegible] 00

[illegible] Regulation League Mask [illegible] 4 wire, quality [illegible] annealed wire, heavy, and [illegible] together. The padding is we[illegible] [illegible] laced with Selected Horsehide. Warranted a first-class and reliable Mask in [illegible] er[illegible]

Neck Protecting Masks

No. [illegible]

NO.	DESCRIPTION	
[illegible]	Spalding's Mask	[illegible] 00

[illegible] Mask [illegible] [illegible] [illegible]

Base Ball Sundries.

Inflated Body Protectors.

No. 0. No. 00

For Catchers and Umpires

NO.	DESCRIPTION	EACH
00	Umpire's Body Protector,	$10 00
0	League Catcher's Protector,	10 00
1	Amateur Catcher's Protector,	6 00

The only practical device for the protection of Catchers and Umpires. They are made of [illegible] and [illegible] and do not interfere with the movements of the wearer under any conditions. When not in use the air may be let out and the Protector rolled in a very small space.

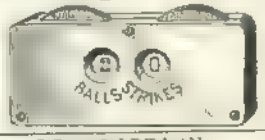
Supporters.

With Laced Front.

NO.	DESCRIPTION	EACH
1	Morton's Supporters,	$1 00

Made of best quality Canton Flannel, cool and pleasant to wear. The most strong and most effective Supporter on the market.

Patent Umpire Indicators.



NO.	DESCRIPTION	EACH
0	Made of Celluloid and Leather, [illegible] inches. It is a hand book, Tally or Balls and Strikes, [illegible] carried and used by all League Umpires.	$0 50

Spalding's Scoring Tablets.

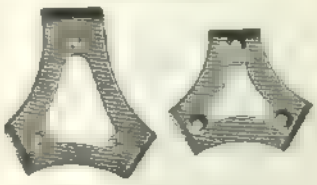
NO.	DESCRIPTION	EACH
1	A Simple, Convenient and Accurate Device for the Record of Runs and Outs. It is made of Celluloid and [illegible] be cleaned [illegible]	$0 25

Pitchers' Toe Plates.

DESCRIPTION	EACH
Spalding's Pitchers Toe Plates	$0 50

Heavy Brass [illegible] worn on toe of [illegible] made [illegible] right or left shoe. A short piece of [illegible] to the shoe and a very desirable assistance in pitching. Used by all professionals.

Shoe Plates.



No. 0. No. 2/0

NO.	DESCRIPTION.	PER DOZEN PAIRS.
0	Spalding's Special Hand-forged Steel Toe Plates,	$5 00
2/0	Spalding's Special Hand-forged Steel Heel Plates,	5 00

No. 1 No. 2 No. 3

NO.	DESCRIPTION	PER DOZEN PAIRS
1	Spalding's Professional Shoe Plates, Best Quality Steel,	$2 00
2	Spalding's Amateur Shoe Plates Fine Steel,	1 50
3	Spalding's Professional Heel Plates, Best Quality Steel	2 00

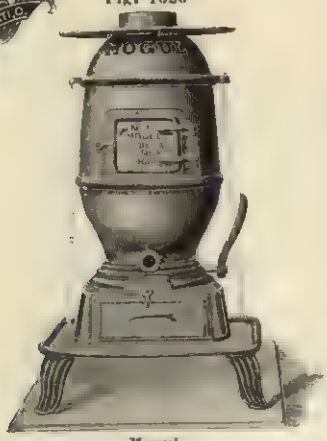
Base Ball Guides.

New edition published in March of each year. The Guide is the acknowledged authority on Base Ball in America, and is officially endorsed by the National League and American Association of Professional Base Ball Clubs. Many new and attractive features will be added, and the Guide will be replete with valuable statistics. Particular attention will be paid to College Base Ball.

DESCRIPTION.	PER DOZEN.
Spalding's Official Base Ball Guides,	$1 20

HEAVY HEATING STOVES.

Fig. 1626



Mogul.

MOGUL.

For Depots, Shops, Cars, Warehouses, Etc.

These Stoves will burn Hard or Soft Coal, Wood or Natural Gas, and are furnished with Ash Pan, Shaking and Dumping Grate, Lever, Shelf and Damper.

Sheet-Iron Drums, Water Bowls and attachments, for bolting to floor, are extra.

SIZES AND PRICES.

No. 1.	Diameter, 15 in.;	height, 40 in.;	weight, 300	. .	price, each,	$12 00
" 2.	" 17 "	" 45 "	" 350	...	" "	14 00
" 3.	" 19 "	" 50 "	" 450		" "	18 00

RAILWAY CAR HEATERS.

Spears.

Fig. 1627

Pattern D.

Fig. 1628

Pattern A.

Fig. 1629

Pattern C.

RAILWAY CAR HEATERS.

PATTERN A.

Anti-Clinker Car Heater and Ventilator with open work Top, Plate, Base Ring and Russia Iron Heat Screen. For Anthracite or Bituminous Coal or Coke, with Hot Air Pipe Connections for extending along the side of car.

	No. 16	No. 15
New Heater with Pipes and Ventilator, New Top Plate and Heat Screen	$52.00	$46.00
Fire Proof Bottom	2 50	2 50
Cast Iron Connecting Elbow	2.50	2 50
Two Bronze Rings for Head Linings	2.00	2 00
Six 4½x6½ Brass Register Plates.	4.50	4.50
38 feet 4x6 Tin Pipe for Side of Car, 25 cts. per foot.	9.50	9.50
	$78.00	$67 00

PATTERN C.

Anti-Clinker Grate for Anthracite or Bituminous Coal or Coke, with Ventilator.

	No. 16	No. 15
New Heater with Pipe and Ventilator and Heat Screen	$42.00	$36 50
Fire Proof Bottom	2.50	2.50
Bronze Ring for Head Lining.	1.00	1.00
	$45.50	$40.00

PATTERN D.

Anti-Clinker Grate for Anthracite or Bituminous Coal or Coke without Ventilator.

	No. 16	No. 15
New Heater with Pipe and Cap, Regulator, and Heat Screen.	$40 00	$46.00
Fire Proof Bottom	2.50	2.5
Bronze Ring for Head Lining	1.00	1.00
	$43.50	$39 50

Croquet.

Standard Croquet.

NO.	DESCRIPTION.	PER SET.
1	Four Ball Plain Set—Mallets oiled, Balls and Stakes varnished, ten Arches, complete in dove tailed box with hinged cover	80 75
2	Six Ball Set—Same description as No 1	1 05
3	Eight Ball Set—Same description as No. 1,	1 35
4	Eight Ball Set—All pieces varnished, Mallets part ten and striped two Eight colored Stakes, ten Arches,	1 87
5	Eight Ball Set—Handles Balls and Mallets painted and striped Heavy Galvanized Arches, two large Stakes, a nicely finished set,	2 10
6	Eight Ball Set—Mallets of new design Balls Hand sawed Mallets painted and striped two large Fancy Stakes, heavy Galvanized Arches; a first-class set at a low price,	2 62
7	Eight Ball Set—A very handsome Maple Set, shellac finish, with Fancy Mallets, 8 inches long striped Handles and Balls, two Elegant Beaded Stakes, ten Arches with Sockets. Select materials in every part,	4 12
9	Professional Set—Four Balls, Four nine inch Mallets, Short Striped Handles, two large Stakes, Galvanized Arches,	2 60
10	Professional Set—Four Balls, four nine inch Mallets, with short Handles, striped Balls and Mallets, two large Fancy Stakes, heavy Arches with Sockets. A desirable set for fine players,	3 25
11	Eight Ball Set—Same description as No. 9,	2 80
12	Professional Set—Four Balls, four nine inch Mallets, Short Handles, two elegant, large Beaded Fancy Stakes Heavy Enameled Arches with Sockets, Balls of Best Rock Maple turned by hand, Mallets, Balls and Stakes finished in Ebony and Bronze. An expert Set,	3 75

Croquet Balls.

NO.	DESCRIPTION	PER DOZ.
1	First quality Lignumvitæ Balls,	$ 9 00
4	Polished Rock Maple,	2 25
5	Ordinary Rock Maple,	1 20
B	Medium Arches and Good Stakes, per dozen sets,	13 50

Croquet Mallets.

Tuxedo Mallet

NO	DESCRIPTION	PER DOZ.
A	"Lakeside" Maple Mallet, professional model. Size of head, 2½ inches; length of head, 9 inches; length of handle, 24 inches. Handle fastened securely to head,	$ 3 75
C	"Orange Club" Hickory Mallet, handsomely polished, professional model. Diameter of head 2¼ inches; length of head 9 inches, length of handle 24 inches. Handle securely fastened in head	9 00
F	"Tuxedo Club" Mallet made of choicest selected Boxwood, with Hickory Handle, all highly finished. Diameter of head, 2½ inches; length of head, 9 inches; length of handle 24 inches. Handle made to screw into head. This is in every way the finest croquet mallet ever put on the market,	33 75

THE

KEYSTONE OPEN LINK

is the

Only One On The Market

that is

DROP FORGED FROM BAR STEEL

For **STRENGTH** and **DURABILITY** it stands without a rival, and those who want a **SAFE** link, and the best the market affords, and one that will **BREAK A CHAIN OF ITS OWN SIZE**, will buy the **KEYSTONE** every time.

AS CHAIN IS ONLY AS STRONG AS ITS WEAKEST LINK, AND IF YOU WOULD NOT USE A MALLEABLE OR CAST IRON CHAIN, WHY SHOULD YOU USE A MALLEABLE OR CAST IRON LINK TO REPAIR A CHAIN?

If you cannot get the **Keystone** in your vicinity write to us and in money, not risk property and life, by using an inferior article. Do not waste time **Keystone** and take no other. Insist on having the

Philadelphia Drop Forge Co.

AMERICAN AND YORK STREETS PHILADELPHIA, PA.

W. W. Pryor Hardware Mfg. Co.

Manufacturers of NEWARK, N. J.

TOOLS and SPECIALTIES

Spring, Revolving and Saddler's Punches, Screw Drivers, Nail Sets, Countersinks, Pinking and Curling Irons, Rivet Sets, Tracing Wheels, Gimlet Bits, Baxter's "S" Wrenches, Box and Wall Scrapers, **Foster Door Springs.**

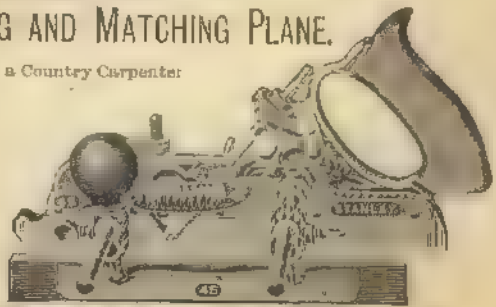
SEND FOR CATALOGUE

N. Y. Office and Sales Rooms W. W. PRYOR & CO., 81 Chamber Street

STANLEY'S ADJUSTABLE

BEADING, RABBET, SLITTING AND MATCHING PLANE.

"A Factory Mill within itself,"—says a Country Carpenter



No. 45. Nickel Plated Stock and Fence with Twenty Tools, Bits, etc., $8.00

SOLD BY ALL HARDWARE DEALERS

HARDWARE "SWEDOH" STEEL DEALERS

New York Office, 2 1-2 MURRAY ST. Works, 1 1-4 hours ride from New York City on N. Y., N. H. & H. R. R. at BRIDGEPORT, CONN., U. S. A

ESTABLISHED 877 INCORPORATED 1884

The Wilmot & Hobbs Mfg. Co.

MANUFACTURERS OF
BEST SOFT, EXTRA SOFT & SPRING, BESSEMER
& OPEN HEARTH, HOT ROLLED, ANNEALED & PICKLED, ALSO
BRIGHT COLD ROLLED "SWEDOH" STEEL.

SPECIAL BUTTED SEAM TUBES TO ORDER

LOCK SEAM BRASS TUBES

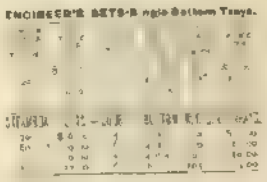
HOT ROLLING MILLS & DOCKS AT BRIDGEPORT, CONN., U. S. A.
UNEXCELLED FOR PRESSED, STAMPED, DRAWN & PLATED WORK
WE MAKE SEAMLESS EXTRA SOFT BRIGHT
COPPERIZED NICKEL BRASS
COLD ROLLING MILLS & MAIN OFFICE AT BRIDGEPORT CONN., U. S. A.

PLATED & JAPANNED

Seamless "SWEDOH" Steel Oilers, Lamps, Engineers' and Steamboat Sets, &c.

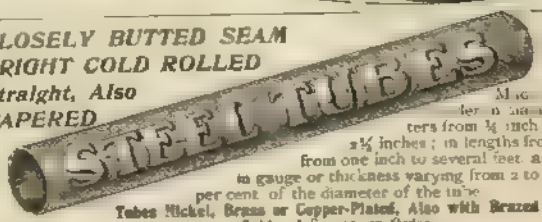
This illustrates small & few of our Leading Sizes. These sizes are marked on Price List. All orders filled promptly from stock

"COPPERIZED" OILERS Registered Trade Marks



Large Stock—Best of Facilities

CLOSELY BUTTED SEAM
BRIGHT COLD ROLLED
Straight, Also
TAPERED



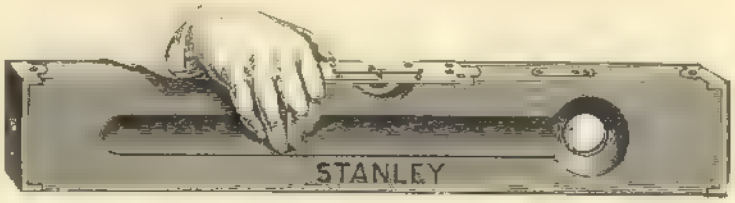
Made to ... dern ... ters from ¼ inch to 2½ inches; in lengths from from one inch to several feet, and in gauge or thickness varying from 2 to 25 per cent. of the diameter of the tube.

Tubes Nickel, Brass or Copper-Plated, Also with Brazed or Soldered Seams, to Order

Special attention is called to our "everlasting" new and improved **Plain Smooth Surface, Clock Spring Steel Bottom** Squirt Can Oilers, and to the fact that we are now furnishing them with a reinforced steel neck and a steel collar or cap on the spout (Pat. May 28, 1895, on which the screw threads are cut. **These Threads will last much longer than if cut on Brass**, which metal is so soft that the threads soon wear out or are easily damaged by getting "crossed."

Plumbs and Levels.

Hand-y Plumbs and Levels.



No.		Per Dozen
20.	Arch Top Plate, Two Side Views,	$ 9 00
16.	Patent Adjustable, Cherry, Arch Top Plate, Two Side Views, Tipped,	15.00

Duplex Plumbs and Levels.

30.	Patent Adjustable, Cherry, Arch Top Plate, Duplex Side Views, Tipped,	18.00
25.	Patent Adjustable, Mahogany, Arch Top Plate, Duplex Side Views, Tipped,	24 00

Masons Plumbs and Levels.

35.	Patent Adjustable, Masons, Adapted also for Plumb, Bob and Line,	40.00
36.	Patent Adjustable, Hand-y, Masons, Adapted also for Plumb Bob and Line,	18.00

Half Dozen in a Box.

No. 35.

No. 36.

Level Sights.

No.		Per Pair
1.	Improved Level Sights,	$ .75

One Pair in a Box.

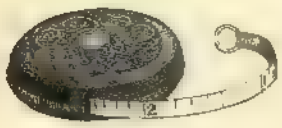
Geo. M. Eddy & Co.'s Measuring Tapes.

Pocket Spring Tapes.

Nickel Plated Cases.

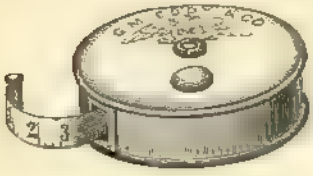
No.		Per Dozen
24.	3 feet, ¼ inch Linen Tape,	$5.25
28.	6 feet, ¼ inch Linen Tape,	5.75
155.	5 feet, ¼ inch Cotton Tape,	4.00

Plastic Cases.



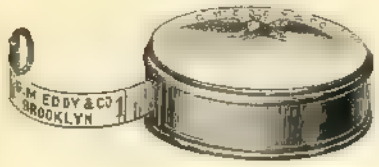
26.	3 feet, ¼ inch Linen Tape,	5.25
29.	6 feet, ¼ inch Linen Tape,	5.75

Nickel Plated Cases.



323.	6 feet, ⅜ inch Linen Tape,	11.00
330.	12 feet, ⅜ inch Linen Tape,	15.00

German Silver Case.



223. 6 feet, ¼ inch Steel Tape, ... 22.00

Steel Tapes, Flush Handles.

Nickel Plated Case.

216. 25 feet, $\frac{5}{16}$ inch Steel Tape, . . . 66.00

Leather Covered Case.

Metal Lined.

303. 50 feet, ⅜ inch Steel Tape, . 96.00

Match Safes.

Japanned Tin.

Twin

Square.

Round.

DESCRIPTION.	PER DOZEN.
Twin Match Safes, Japanned,	$0 70
Square Match Safes, Japanned, Small,	80
Square Match Safes, Japanned, Large,	1 00
Round Match Safes, Japanned,	1 20

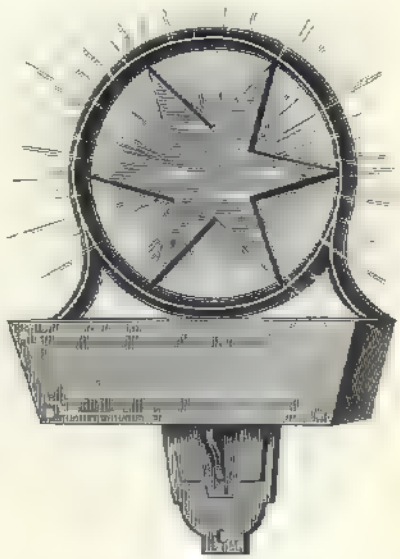
ONE DOZEN IN A PACKAGE.

Adamantine Bronzed, Self-Closing.

No.	6	7
Size,	3¾ × 1⅝ × 1⅝	5 × 2¾ × 1⅝
Per Dozen,	$3 50	5 50

NO. 6, ONE-THIRD DOZEN; NO. 7, ONE-SIXTH DOZEN IN A BOX.

Adamantine Bronzed, Luminous.



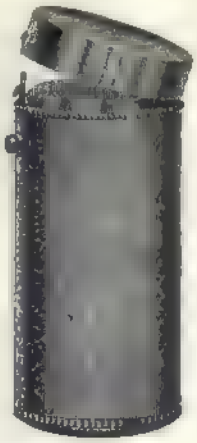
NO.	DESCRIPTION.	PER DOZEN
2	Star Luminous Match Safe,	$2 00

ONE DOZEN IN A BOX.

Pocket Match Safes.

No. 6

No. 9



No. 90.

No. 5.

NO.	DESCRIPTION.	PER DOZEN.
6	Charm, Nickel Plated,	$2 50
9	Excelsior, Nickel Plated,	2 00
90	Excelsior, Nickel Plated, Body Leather Covered,	2 00
5	Automatic, Nickel Plated,	3 50

ONE DOZEN IN A BOX.

No. 65

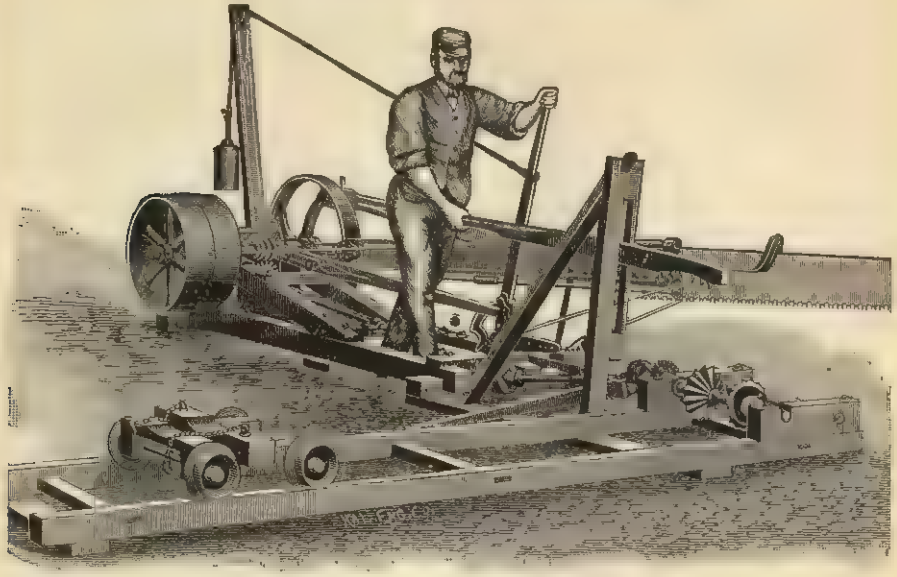
No. 650.

No. 7

NO.	DESCRIPTION.	PER DOZEN.
65	Mascot, Plain, Nickel Plated,	$3 50
650	Mascot, Decorated, Nickel Plated,	3 50
7	Combination Safe and Cigar Cutter, Nickel Plated,	4 50

ONE DOZEN IN A BOX.

NO. 5 STEAM POWER DRAG SAWING MACHINE.

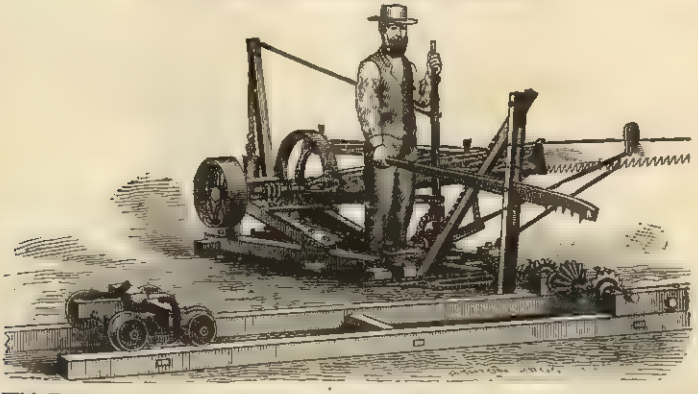


FOR STAVE HEADINGS, SHINGLE BOLTS, ETC.

Has improved self-feeding device, and heavy, first-class construction throughout, adapting it to the heaviest logs. Can be made to feed the log either way as may be ordered. It is built for durability and large capacity, and is the cheapest machine of its class in the market at the price named. Weight, 1,400 pounds.

Price, with one 7 ft. saw $125 00

NO. 3 SELF FEED DRAG SAW MACHINE.



With Extra Heavy Frame and Shaft, and Extra Pulley; Calculated for Steam Power.

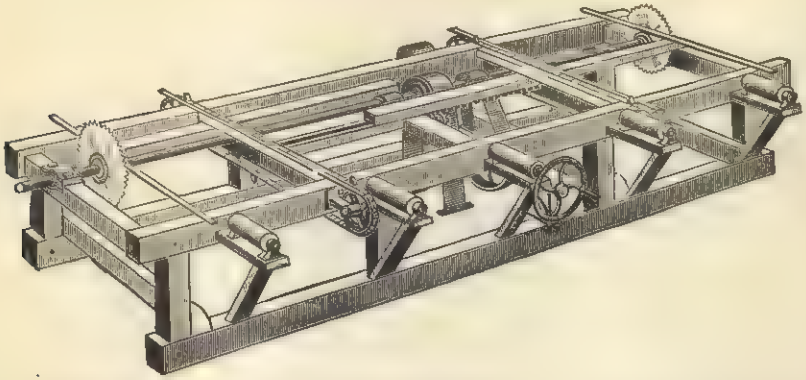
No. 3 Screw-Feed Sawing Machine, without gearing, with heavy Frame, (three sills,) extra heavy Shaft and Saw, and an extra Band Wheel, calculated for Steam Power, (weight 1,300 lbs.) Price..... $100 00

☞Loose Pulley for No. 3, $5.00 extra.

READ CAREFULLY.

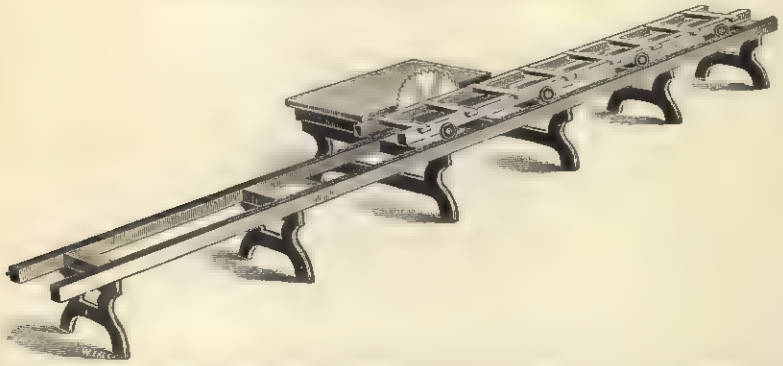
When you order a *Power Sawing Machine*, state, also, if you want one of our HORSE POWERS. If not, state what power it is to be run with, and give the number of revolutions the Tumbling Rod has to one turn of the horses, and whether the Tumbling Rod turns over *with* the horses or *against* them. If it is to be run with a belt, give size of Driving Pulley and number of revolutions it has per minute. A 5¼ foot mill tooth is preferable for slow motion, and Champion tooth for high motion.

ST. LOUIS GANG LUMBER TRIMMER.



The value of this machine for cutting off defective ends and in saving freight on the excess of length in boards beyond standard lengths, for which the producer receives no pay, is well understood by mill men, as neatly trimmed boards are always in demand, and are much more convenient to load in cars. We sell this machine at a low price. It is simple in construction and easy in operation. Both saws are movable, and are arranged to cut boards from 10 to 18 feet, or 10 to 20 feet. At each revolution of hand-wheel the saws are drawn together or thrown apart 2 feet, as the operator may desire. Driving pulley may be placed in center, as shown in cut, or on either end of shaft as desired, and may be used either right or left hand. Driving pulley 6 x 6″, should make 2,000 revolutions. Price, to cut from 9 to 18 feet, $175; to cut from 10 to 20 feet $190.

SINGLE SAW EDGER AND RIP SAW TABLE.



This well-known machine has been in general use for many years, but the cut herewith illustrates an improved construction from new patterns throughout, affording great strength and the utmost ease of operation. The extension at side provides all the advantage of a stationary rip-saw table, without interference with the essential features of the edger. It is adapted to small mills, where the cost of a Gang Edger is an obstacle to its introduction. It will easily handle the product of any mill driven by not more than a 30 H. P. engine. Table 32 feet long, carriage 14 feet. Price, including one 16 inch rip saw, $75.00.

Stevens Rifles.

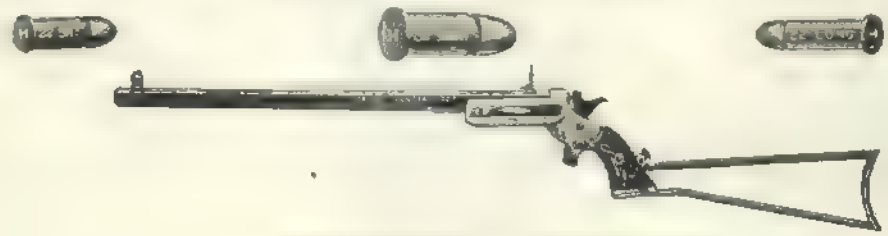
Celebrated for their Accuracy, Simplicity, Durability and Compactness

It is necessary to go into a long statement explaining the merits of these Rifles. Those who have used them take pleasure in recommending them for their [illegible] and general handiness. We have given much attention to the finest of match rifles, and particular attention in [illegible] to the accuracy, which is based upon the testimonials of sports[illegible] The carriage and [illegible] The [illegible] should not be [illegible] The success of this company with the [illegible] has induced many imitators to [illegible] the same name for [illegible] and target practice. After exhaustive experiments [illegible] for this purpose, and from the age to which the company brought to [illegible] perfection the rifle [illegible]

The Stevens [illegible] for all kinds of shooting, but for [illegible] game shooting as well as target practice. If a person desires an [illegible] and more [illegible] [illegible] for all sorts

.5 CALIBER RIM FIRE CARTRIDGE.—The success of the recently introduced .25 caliber Central Fire Rifle has attracted the attention of sportsmen to this bore, and they have been urged to produce a rifle for a rim fire cartridge of this caliber as there are many who do not care for a central-fire cartridge, preferring not to reload their shells.

Hunter's Pet Rifle.



22 and 32 Caliber, Combined Sights.

NO.	DESCRIPTION.	EACH
4018	22 Caliber, 18 inch Barrel. Weight, 5¼ lbs.,	$18 00
4118	32 Caliber, 18 inch Barrel. Weight, 5¼ lbs.,	18 00

Half or Full Octagon Barrel, Stevens Combination Sights, with Detachable Shoulder Rest, Frame and Rest Full Nickel Plated.

New Model Pocket Rifle.

22 Caliber, Bicycle Rifle.

Round Barrel, Stevens Combination Sights, with Detachable Shoulder Rest, Frame and Rest Full Nickel Plated.

NO.	DESCRIPTION.	EACH.
4[illegible]	Length, 10 inches, Weight, 2 lbs.,	$12 25
4[illegible]	Length, 12 inches. Weight, 2¼ lbs.,	13 25
421	Length, 15 inches. Weight, 2¼ lbs.,	15 00
4[illegible]	Length, 18 inches. Weight, 2¼ lbs.,	16 50

Sure Shot Rifle, 22 Caliber.

NO	DESCRIPTION.	EACH
35[illegible]	22 Caliber, 20 inch Round Barrel, Open Sights. Weight, 3¼ lbs. Will take 22 Long Cartridge.	$10 00

This Rifle is made by the Stevens people to fill a long [illegible] for a cheap accurate rifle. They make them just as carefully as they do their best rifles, and they are guaranteed [illegible]

Remington Rifles.

No. 2. Remington Rifle.

NO.	DESCRIPTION.	EACH.
624	22 Caliber "Long or Short" Rim Fire, 24 inch Octagon Barrel, Case hardened Frame. Weight, 5½ to 5¾ lbs.,	$10 00
626	22 Caliber "Long or Short" Rim Fire, 26 inch Octagon Barrel, Case hardened Frame. Weight, 5½ to 5¾ lbs.,	12 00
726	32 Caliber "Long or Short" Rim Fire, 26 inch Octagon Barrel, Case hardened Frame. Weight, 5½ to 5¾ lbs.,	12 00
826	32-73 Winchester, Center Fire, 26 inch Octagon Barrel, Case-hardened Frame. Weight, 5¼ to 5⅝ lbs.,	14 00

No. 4. New Model Remington Rifle.

(Lighter and Smaller than No. 2.

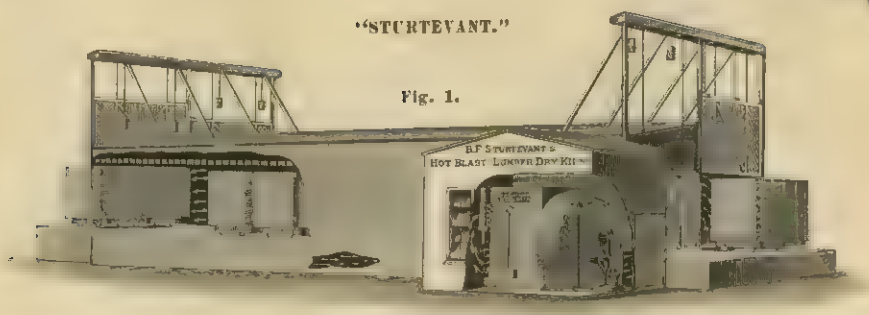
NO.	DESCRIPTION.	EACH.
432	22 Caliber "Long or Short" Rim Fire, 22½ inch Octagon Barrel, Case-hardened Frame. Weight, 4½ lbs.,	$9 00
632	32 Caliber "Long or Short" Rim Fire, 24 inch Octagon Barrel, Case hardened Frame. Weight, 4½ lbs.,	9 00

The material used in the Remington No. 4 Rifles are of the best, and the workmanship of the highest standard. All parts are forged—not malleable or cast as in other makes of Low Priced Rifles. All parts are interchangeable.

LUMBER DRY KILN.

"STURTEVANT."

Fig. 1.



Progressive Dry Kiln.

LOCATION.—It is advisable to locate the apparatus as near the dry room as possible, generally in a small room adjacent to the kiln, but when necessary, the hot air can be carried a considerable distance through properly protected pipes.

APPLICATION TO ORDINARY KILNS.—The apparatus can be applied to ordinary dry kilns with steam pipes in the bottom, and the capacity thereby increased as much as fifty per cent., and smaller heaters used than in kilns not thus piped.

STEAM FAN.—By the use of the steam fan the temperature and volume of the air may be controlled at all times.

RETURN DUCT.—As the air seldom becomes saturated with moisture by once passing through the lumber, it is often desirable with air dried stock to employ a return duct to return the air to the apparatus and pass it more than once through the kiln.

ECONOMY OF OPERATION.—The apparatus is specially designed for utilizing the exhaust steam from the fan and mill engines; live steam can be used in the heater at night.

FIRE RISK. One of the greatest advantages of this system is freedom from fire. The steam pipes are encased in a fire proof steel plate jacket, placed in an apartment distinct from the dry-room, and do not come in contact with any wood-work whatever.

Size of Dry Kiln.					Number of Trucks.	
Designation.	No. of Rooms.	Size of Each Room in feet.	Size of Fan House. in feet.	Holding Capacity of Kiln, in feet of Lumber	For two Tracks in Kiln.	For three Tracks in Kiln.
Quarter Single	One.	22 x 17 x 9	12 x 8	12,000	10	15
Half Single	"	43 x 17 x 9	13 x 8	24,000	16	24
Three Quarter Single	"	64 x 17 x 9	14 x 9	36,000	22	33
Standard Single	"	85 x 17 x 9	14 x 9	48,000	28	42
Quarter Double	Two.	22 x 17 x 9	13 x 8	24,000	20	30
Half Double	"	43 x 17 x 9	14 x 9	48,000	32	48
Three-Quarter Double	"	64 x 17 x 9	15 x 10	72,000	44	66
Standard Double	"	85 x 17 x 9	17 x 12	96,000	56	84
Quarter Triple	Three.	22 x 17 x 9	14 x 9	36,000	30	45
Half Triple	"	43 x 17 x 9	15 x 10	72,000	48	72
Three Quarter Triple	"	64 x 17 x 9	17 x 12	108,000	66	99
Standard Triple	"	85 x 17 x 9	20 x 14	144,000	84	126
Quarter Quadruple	Four.	22 x 17 x 9	14 x 9	48,000	40	60
Half Quadruple	"	43 x 17 x 9	17 x 12	96,000	64	96
Three-Quarter Quadruple	"	64 x 17 x 9	20 x 14	144,000	88	132
Standard Quadruple.	"	85 x 17 x 9	22 x 20	192,000	112	168
Five	Five	85 x 17 x 9	24 x 20	240,000	140	210
Six	Six.	85 x 17 x 9	26 x 22	288,000	168	252
Eight	Eight.	85 x 17 x 9	32 x 26	384,000	224	336
Ten	Ten.	85 x 17 x 9	36 x 28	480,000	280	420

PRICES ON APPLICATION.

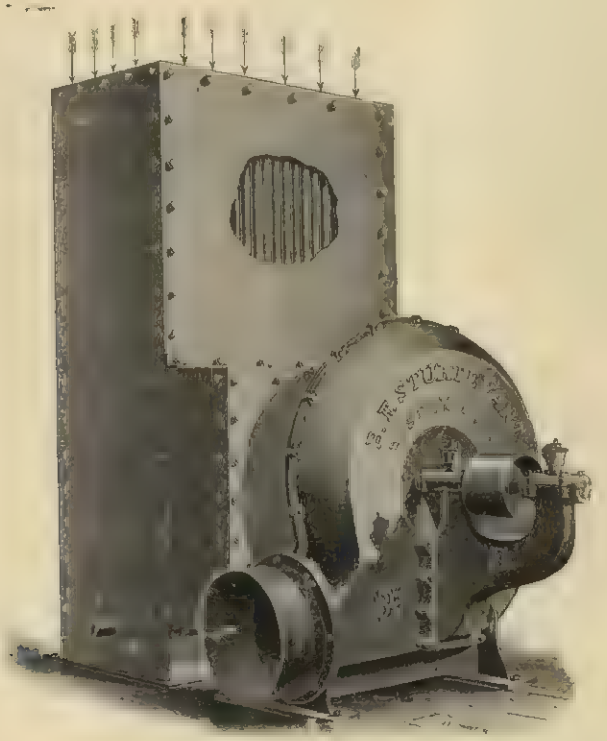
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA Pumps & Traps

STEAM HOT BLAST APPARATUS.

"STURTEVANT."

Fig. 2.



Monogram Exhauster Solid Base Heater.

The above illustration represents the simplest form of Hot Blast Apparatus built. The fan is designed for moving hot air, both bearings being upon one side, leaving the inlet upon the opposite side entirely unobstructed. This type of Heater is called the Solid Base Heater. The steam supply pipe for these heaters enters the base at the bottom on one side, and the water of condensation escapes from the bottom on the opposite side. A diaphragm in the base compels the steam to flow through all the pipes, thus utilizing all the heating surface. The pipes are of steel and the Heater entirely encased in steel plate with a receiving chamber for the air where it enters the fan. Ordinarily the air is taken in at the top either from the room in which the apparatus stands or through a pipe connecting with the desired fresh air supply. The air discharged from the fan can be conveyed to any point by means of distributing pipe. All these Heaters are designed to use either live or exhaust steam.

Size of Heater.	Number of Heating Surface.	No. of Exhauster.	Floor Space of Fan and Heater combined.	Height of Heaters.
300 ft.	103	4	2 ft. 9 in. x 4 ft. 3 in.	6 ft. 8 in.
450 "	149	5	3 " 3 " x 5 "	" "
600 "	203	6	3 " 9 " x 5 " 6 in.	" "
800 "	265	7	4 " 3 " x 6 "	" "
1000 "	335	8	4 " 9 " x 7 "	" "

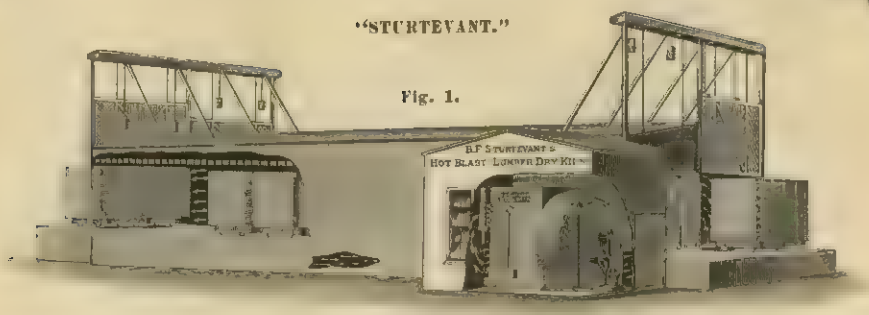
These Exhausters are made either right or left hand to discharge horizontally at the bottom or directly upward. Special Heaters of this type, where the air is to be blown instead of drawn through, are furnished whenever the situation demands.

PRICES ON APPLICATION.

LUMBER DRY KILN.

"STURTEVANT."

Fig. 1.



Progressive Dry Kiln.

LOCATION.—It is advisable to locate the apparatus as near the dry room as possible, generally in a small room adjacent to the kiln, but when necessary, the hot air can be carried a considerable distance through properly protected pipes.

APPLICATION TO ORDINARY KILNS.—The apparatus can be applied to ordinary dry kilns with steam pipes in the bottom, and the capacity thereby increased as much as fifty per cent., and smaller heaters used than in kilns not thus piped.

STEAM FAN.—By the use of the steam fan the temperature and volume of the air may be controlled at all times.

RETURN DUCT.—As the air seldom becomes saturated with moisture by once passing through the lumber, it is often desirable with air dried stock to employ a return duct to return the air to the apparatus and pass it more than once through the kiln.

ECONOMY OF OPERATION.—The apparatus is specially designed for utilizing the exhaust steam from the fan and mill engines; live steam can be used in the heater at night.

FIRE RISK. One of the greatest advantages of this system is freedom from fire. The steam pipes are encased in a fire proof steel plate jacket, placed in an apartment distinct from the dry-room, and do not come in contact with any wood-work whatever.

Size of Dry Kiln.					Number of Trucks.	
Designation.	No. of Rooms.	Size of Each Room in feet.	Size of Fan House. in feet.	Holding Capacity of Kiln, in feet of Lumber	For two Tracks in Kiln.	For three Tracks in Kiln.
Quarter Single	One.	22 x 17 x 9	12 x 8	12,000	10	15
Half Single	"	43 x 17 x 9	13 x 8	24,000	16	24
Three Quarter Single	"	64 x 17 x 9	14 x 9	36,000	22	33
Standard Single	"	85 x 17 x 9	14 x 9	48,000	28	42
Quarter Double	Two.	22 x 17 x 9	13 x 8	24,000	20	30
Half Double	"	43 x 17 x 9	14 x 9	48,000	32	48
Three-Quarter Double	"	64 x 17 x 9	15 x 10	72,000	44	66
Standard Double	"	85 x 17 x 9	17 x 12	96,000	56	84
Quarter Triple	Three.	22 x 17 x 9	14 x 9	36,000	30	45
Half Triple	"	43 x 17 x 9	15 x 10	72,000	48	72
Three Quarter Triple	"	64 x 17 x 9	17 x 12	108,000	66	99
Standard Triple	"	85 x 17 x 9	20 x 14	144,000	84	126
Quarter Quadruple	Four.	22 x 17 x 9	14 x 9	48,000	40	60
Half Quadruple	"	43 x 17 x 9	17 x 12	96,000	64	96
Three-Quarter Quadruple	"	64 x 17 x 9	20 x 14	144,000	88	132
Standard Quadruple.	"	85 x 17 x 9	22 x 20	192,000	112	168
Five	Five	85 x 17 x 9	24 x 20	240,000	140	210
Six	Six.	85 x 17 x 9	26 x 22	288,000	168	252
Eight	Eight.	85 x 17 x 9	32 x 26	384,000	224	336
Ten	Ten.	85 x 17 x 9	36 x 28	480,000	280	420

PRICES ON APPLICATION.

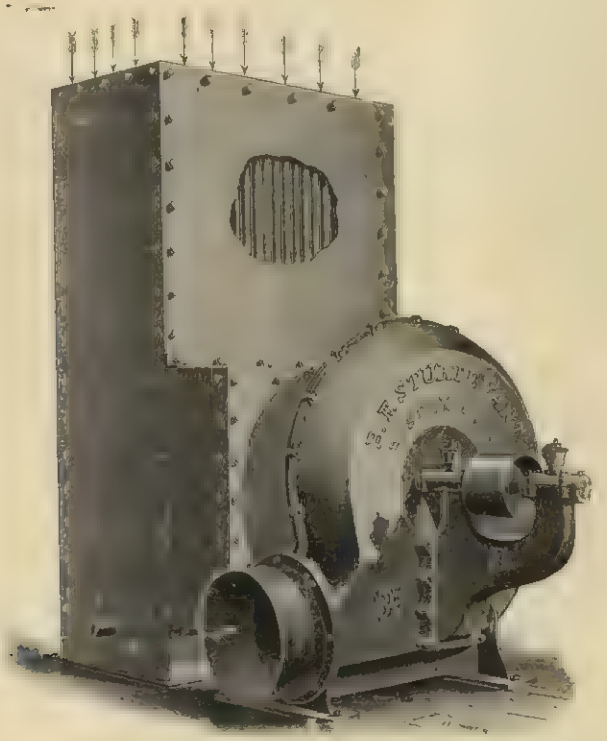
QUEEN CITY SUPPLY CO. CINCINNATI, O.

PUCHTA Pumps & Traps

STEAM HOT BLAST APPARATUS.

"STURTEVANT."

Fig. 2.



Monogram Exhauster Solid Base Heater.

The above illustration represents the simplest form of Hot Blast Apparatus built. The fan is designed for moving hot air, both bearings being upon one side, leaving the inlet upon the opposite side entirely unobstructed. This type of Heater is called the Solid Base Heater. The steam supply pipe for these heaters enters the base at the bottom on one side, and the water of condensation escapes from the bottom on the opposite side. A diaphragm in the base compels the steam to flow through all the pipes, thus utilizing all the heating surface. The pipes are of steel and the Heater entirely encased in steel plate with a receiving chamber for the air where it enters the fan. Ordinarily the air is taken in at the top either from the room in which the apparatus stands or through a pipe connecting with the desired fresh air supply. The air discharged from the fan can be conveyed to any point by means of distributing pipe. All these Heaters are designed to use either live or exhaust steam.

Size of Heater.	Number of Heating Surface.	No. of Exhauster.	Floor Space of Fan and Heater combined.	Height of Heaters.
300 ft.	103	4	2 ft. 9 in. x 4 ft. 3 in.	6 ft. 8 in.
450 "	149	5	3 " 3 " x 5 "	" "
600 "	203	6	3 " 9 " x 5 " 6 in.	" "
800 "	265	7	4 " 3 " x 6 "	" "
1000 "	335	8	4 " 9 " x 7 "	" "

These Exhausters are made either right or left hand to discharge horizontally at the bottom or directly upward. Special Heaters of this type, where the air is to be blown instead of drawn through, are furnished whenever the situation demands.

PRICES ON APPLICATION.

The Acme Folding Canvas Boats.

The above represents a Side View of Boat No. 1, Extended and Folded

For What the Acme is Suitable.

HUNTING AND FISHING.—It is a first-class portable hunting and fishing boat. For fly fishing purposes it has no equal, being so easily managed and steady, so that the angler can stand and cast without fear of a ducking, and roomy, a seventeen foot boat accommodating two or even three anglers comfortably, allowing them to pass each other should they desire to exchange positions. It is also equally well adapted for hunting water-fowl. We can furnish canvasses colored the right shade for duck shooting if desired.

THE TOURIST.—It is an invaluable adjunct to the tourist's outfit as it can be carried as baggage without the least danger of its being injured by rough handling. When Stem and bow facing seats it is far preferable to a canoe for exercise.

FOR EXERCISE.—There is no more beneficial method of exercise so youthful as rowing, with the exception, possibly, of swimming. As means of beautiful exercise the Acme is far superior to the ordinary wooden boat, which has an immense dead weight that is very annoying, and with the weight of the body the oars are necessary to propel it at a fair speed. The Acme is so responsive to the slightest stroke, the body held just sufficiently erect to give the most graceful exercise. To persons whose daily avocation calls for no physical effort, no boon can be greater than such exercise as the Acme affords, which can be graduated to the most varied capacity or inclination. It is possible to row many miles without fatigue and on the other hand if the frame wants but sufficient strength and rapidity to give the most vigorous rowing.

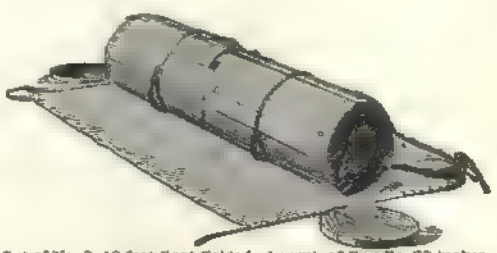
FOR PERSONS WHOSE STORAGE ROOM IS LIMITED.—It can be stowed away on a shelf in a closet, or set up in a corner of the room, where it will occupy less than a one square foot of floor space, or about one third the space occupied by an ordinary chair. A compartment boat 16 feet, requires but one square foot of floor space can not be spared.

FOR PERSONS LIVING AT SOME DISTANCE FROM THE WATER.—It can be carried by hand, or conveyed in a buggy and set up on the water's edge in a few minutes.

FOR A TENDER TO A SMALL YACHT.—It is unequaled as a single-handed yacht tender on account of its compactness.

LASTLY.—It is suited to any use for which any boat is available.

Cut of No. 2, 12 foot Boat Showing Parts Folded.



Cut of No. 2, 12 foot Boat Folded. Length of Bundle, 50 inches. Diameter of Bundle, 6 inches.

NO.	DESCRIPTION.	EACH.
1	Length 12 feet, Beam 48 inches; Depth at Stem and Stern 18 inches; Depth Amidships 14 inches; Weight 50 pounds, Capacity Two and Three Passengers; Complete, with One Pair 6½ foot Oars, Pair of Adjustable Rowlocks, Two Folding Seats, One Adjustable Back, and Complete Shipping Case,	$40 00
2	Length 12 feet, Beam 45 inches; Depth at Stem and Stern 22 inches, Depth Amidships 14 inches; Weight in its Light Form 35 pounds; Weight Complete 46 pounds; Capacity Two and Three Passengers; Complete, with One Pair 6½ foot Oars, Pair of Adjustable Oarlocks, Two Folding Seats, One Adjustable Back, and Complete Shipping Case,	40 00
3	Length 10½ feet; Beam 40 inches; Depth at Stem and Stern 22 inches; Depth Amidships 14 inches; Weight 32 pounds; intended for one, but will accommodate two passengers nicely; Complete, with One Pair of 6½ foot Oars, Pair of Adjustable Rowlocks, Two Folding Seats, One Adjustable Back, and Complete Shipping Case,	35 00
4	Length 14 feet Beam 48 inches; Depth at Stem and Stern 22 inches; Depth Amidships 14 inches; Weight 57 pounds, Capacity Two and Three Passengers; Complete, with One Pair of 7 foot Oars, One Pair of Adjustable Rowlocks, Three Folding Seats, One Adjustable Back, and Complete Shipping Case,	46 00
5	Length 16 feet; Beam 48 inches; Depth at Stem and Stern 22 inches; Depth Amidships 14 inches; Weight 70 pounds, Capacity Four Passengers; Complete, with Two Pairs of 7½ foot Oars, Two Pairs Adjustable Rowlocks, Four Folding Seats, Two Adjustable Backs, and Complete Shipping Case,	55 00

The No. 2 is our most popular boat. It is a good general purpose boat. It can be made up in a light form weighing but 35 pounds, and some of the parts which are necessarily left when the boat is loaded for a fair harvest. It can be made up into two bundles of equal size and weight. For from one to three passengers we would recommend it above any of the other sizes.

We can make a boat of any special dimensions on short notice. The weights given above are for the complete boats, but without oars, rowlocks, seats and shipping case. These weights are as follows. For 12 foot oars, per pair, 5 pounds. 7 foot oars, per pair, 5 pounds and 1 ounce. 7½ foot oars, per pair, 5 pounds and 4 ounces. Rowlocks, per pair, 1½ pounds, seats, each 1 pound, shipping case for 12 foot boats, 4½ pounds, shipping case, 14 foot boats, 5 pounds, shipping case, 16 foot boats, 5½ pounds.

Plain and Copper Tipped Ash Oars.

NO.	DESCRIPTION.	PER FOOT
50	Plain White Ash Oars, - -	$0 10
70	Copper Tipped White Ash Oars, -	12
90	Finely Finished, Leathered and Copper Tipped, Lindon, Pine or Spruce. Straight Blade, Very Light, Strong and Nicely Balanced, - - - -	30

Leathered and Tipped Spoon Oars.

NO.	DESCRIPTION	PER FOOT.
111	Spoon Oars, Linden, Spruce or Pine, Finely Finished, Copper Tipped, Leathered, - - - - -	$0 40

Row Locks.

North River.
2 Inches between Horns.

Round Socket.
Diam. of Hole 2¼ inch.

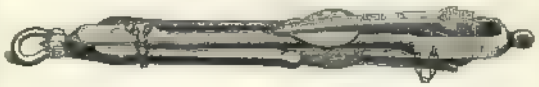
Socket.

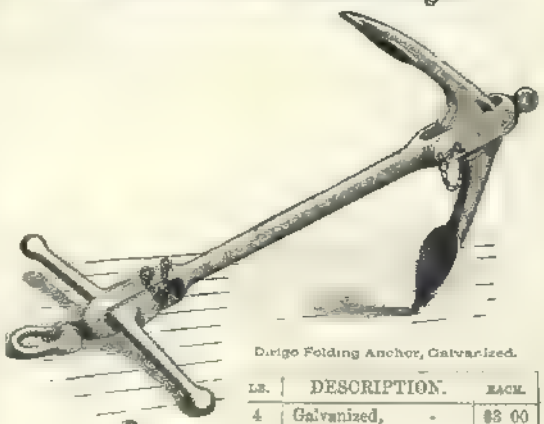
Galvanized. No. 21

Socket Row Locks, No.	0	1	2	3	4
Width of opening, -	1½	2	2½	2¾	3 In.
Per Pair, - -	$0 20	35	45	55	75

NO.	DESCRIPTION.	PER PAIR
	North River Row Locks, with Plate and Pin, - - - - - - -	$0 45
	Round Socket Row Locks, with Plate,	50
11	Plain Malleable Socket Row Locks, 2 in.,	15
12	Plain Malleable Socket Row Locks, 2½ in.,	20
21	Moline Side Plate Row Locks, Plain Malleable, 2 in., - - - - -	30

Boat Anchors.





Dirigo Folding Anchor, Galvanized.

LB.	DESCRIPTION.	EACH.
4	Galvanized, -	$3 00
6	Galvanized, - -	3 50
8	Galvanized, -	4 50

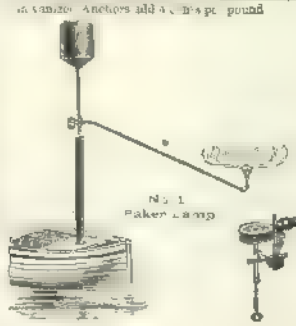
Has all the advantages of the Regular Anchor when in use, but is compact for stowage.

Black Wrought Iron.

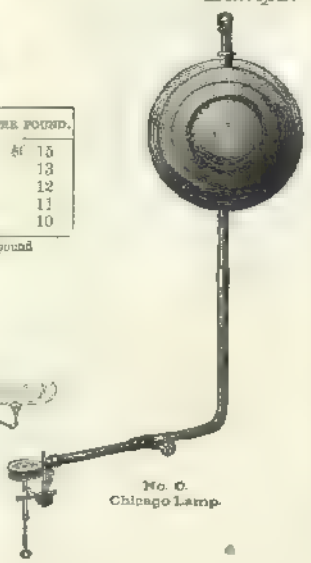
DESCRIPTION.	PER POUND.
6 to 15 pounds,	$0 15
15 to 30 pounds, -	13
30 to 50 pounds, -	12
50 to 100 pounds, -	11
100 pounds and over,	10

Galvanized Anchors add 4 cts. per pound

Outdoor Lamps.



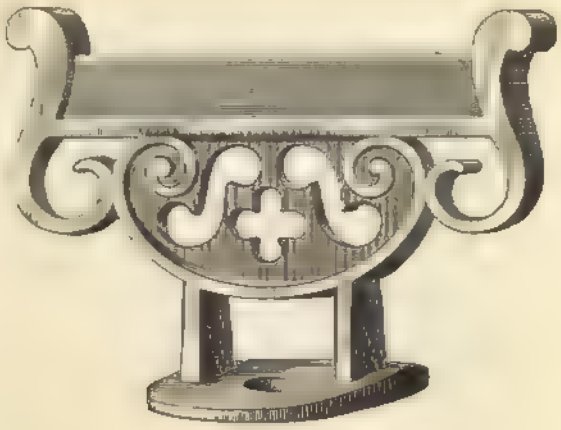
No. 1
Baker Lamp



No. 0.
Chicago Lamp.

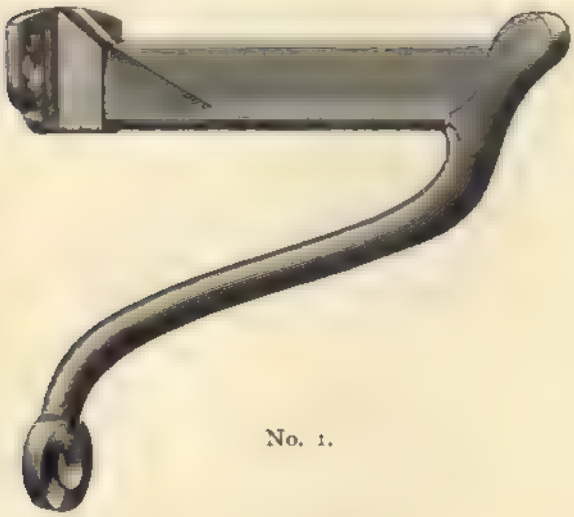
NO.	DESCRIPTION.	EACH.
1	Baker, One Burner, - - - - -	$3 60
0	Chicago, One Gallon Tank, One Burner,	3 00
2	Chicago, Two Gallon Tank, Two Burners,	5 00
	Burners for Baker Lamp, - -	2 00
	Burners for Chicago Lamp, -	1 50

Foot Scrapers.

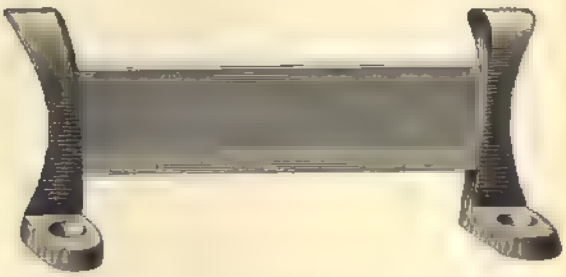


No. 6.

No.		Per Dozen
6.	Japanned,	$1.90



No. 1.



No. 2.

1.	Japanned, Side Bracket,	1.45
2.	Japanned,	.95

No. 12.

12.	apanned, Extra Heavy,	3.50

Half Dozen in a Box.

Fly Traps.

The Balloon.

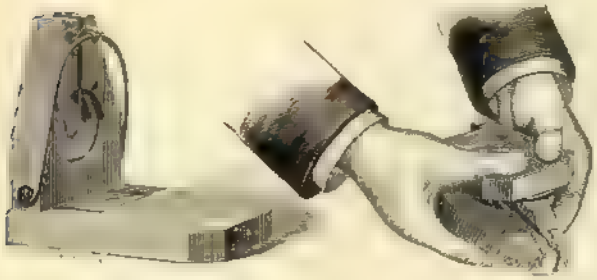
The Paragon.

	Per Dozen.		Per Dozen
Balloon Fly Traps, Tinned, . .	$3.00	Paragon Fly Traps, Green, . .	$3.25

One Dozen in a Case.

Rat Traps.

The Surprise.

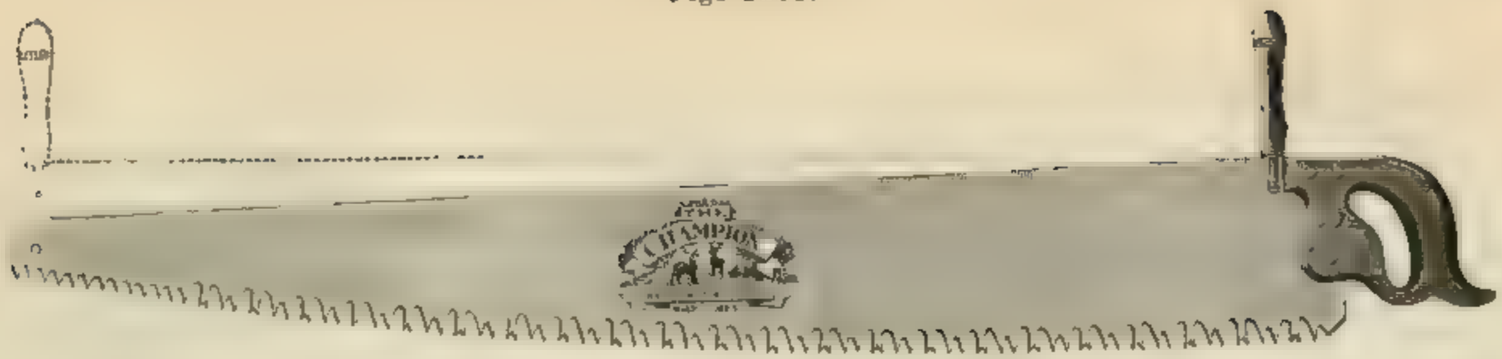


The Star.

Surprise Rat Trap, ...	3.00	The Star Rat Trap, . . .	3.00

Automatically Set with the Hands or Foot.

Fig. 1058.



ONE MAN CROSS CUT SAW.—"CHAMPION" TOOTH.

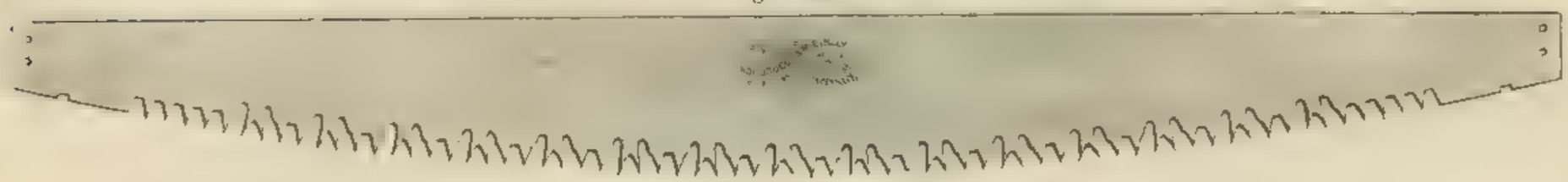
Length	3 ft	3½ ft.	4 ft.	4½ ft.	5 ft.	5½ ft.	6 ft
Price	$2 47	2.70	3.30	3.68	4.05	4.70	4.90 each.

Fig. 1054.

"HICKORY" CROSS CUT SAW.

"Hickory" Cast Steel Cross Cut Saw . .....50 cents per foot

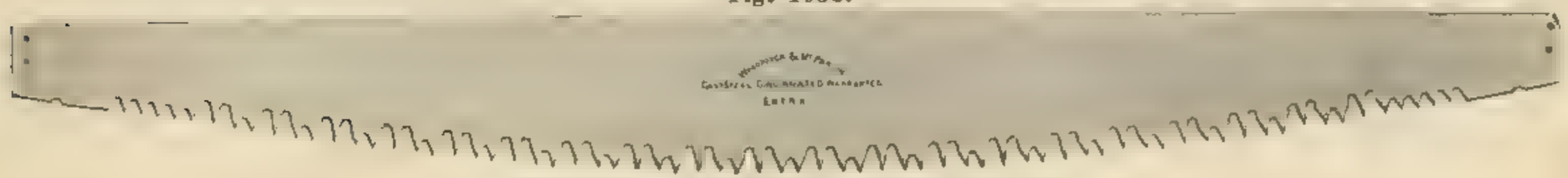
Fig. 1055.



"ELECTRIC" TOOTH CROSS CUT SAW.

"Electric" Tooth, Extra Quality, Cross-Cut Saw. ... .50 cents per foot.

Fig. 1056.



DISSTON'S "HUMBOLDT" CROSS CUT SAW.

Made of New Aluminum Steel, ground five gauges thinner on the back than on the teeth

Bicycle Sundries.

The Chicago Home Trainer.

The Chicago Home Trainer is presented to the public as the only perfect article of its kind on the market. The need of a home trainer has long been felt, and it is with pride that we present this machine to the bicycle public. The high priced and complicated machines heretofore sold have only been within the reach of the few. The Chicago Home Trainer is within the reach of all. It is made of hardwood, finished in oil, with ball bearing roller. The pressure is supplied by the use of two heavy springs which can be regulated at will. It is simple, neat and impossible to get out of order. With it a rider can train in wet and stormy weather at home, and can acquire the art of fast pedalling better than on the track or road. The advantage of using your own wheel, having the same position that you are accustomed to, is apparent to all. The Chicago Home Trainer has been tested and used by some of the best riders in the country and is pronounced by them to be the best trainer ever invented. For the bicycle salesroom its uses are many. It will sell more wheels than any salesman. By putting the bicycle in the trainer a customer is enabled to try the machine. It is also a first-class bicycle stand. In the bicycle repair shop it can be used in cleaning, truing up and repairing wheels, cementing tires, etc. It is ornamental and takes up but little room. It can be fitted to any bicycle by the use of the step which is supplied with every trainer.

DESCRIPTION	EACH
Chicago Home Trainer,	$4 00

Bicycle Stands.

Safety.

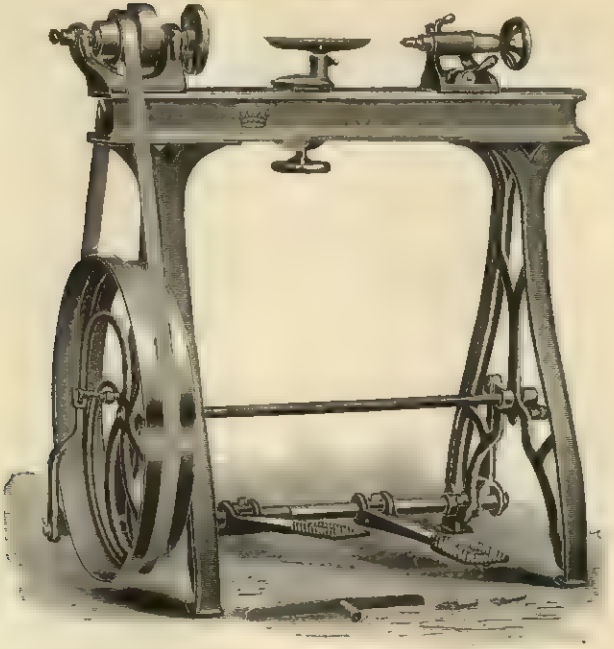
No. 1 Ideal.

No. 2 Ideal.

NO.	DESCRIPTION.	EACH
	Safety, Adjustable to Machines of All Sizes. Made for Cushion or Pneumatic Tires. (Please specify in ordering.)	$0 75
1	Ideal is Screwed to the Floor and is Adjustable to Any Size Machine. Rubber Covered Jaws Preventing Scratching of Nickel,	1 00
2	Ideal Screws to the Floor and is Adjustable to Any Size Machine. Does not Mar the Forks and Permits Wheel being Quickly Inserted or Removed,	1 00

THE "CROWN" LATHE.

For Foot or Steam Power.



This is a strong, substantial and thoroughly well built lathe designed for wood turning, boring, drilling, polishing, etc. No. 1 swings nine inches. No. 2 swings ten inches.

It has a Patent Foot Power by which the operator can produce great power with less fatigue than with any other kind in use. It consists of double treadles, with a walking motion, embracing an entirely new principle. The treadles are movable, and work independent of each other, at opposite ends of the wheel shaft, in such a manner as to produce a positive and continuous power. It can be started or stopped instantly, and may be operated with both feet, sitting, or one foot, standing, as desired

The head stock has a three-speed cone for 1¼ inch belt, hollow steel spindle with ⅝ hole, and hard bronze metal boxes which are adjustable to take up the wear. The centers are standard taper ½ inch to the foot.

The tail stock has a steel spindle with self-discharging center, cam-locking device, etc. The bed, which is strong and solid, has two raised V-ways.

Each lathe is provided with two Point centers, and one each Cup and Spur centers, short and long T rests and wrench, complete as shown in cut.

Number.	Swing.	Between Centers.	Length of Bed.	Weight.	Price.
1	9″	24″	41″	245 lbs.	$40 00
2	10″	36″	58″	275 lbs.	45 00

Countershaft furnished in place of foot power, without extra charge.

Unless otherwise specified, we always furnish foot power.

FITTINGS FOR Nos. 1 AND 2 CROWN LATHES.

Screw Chuck.....Price each, $1 50

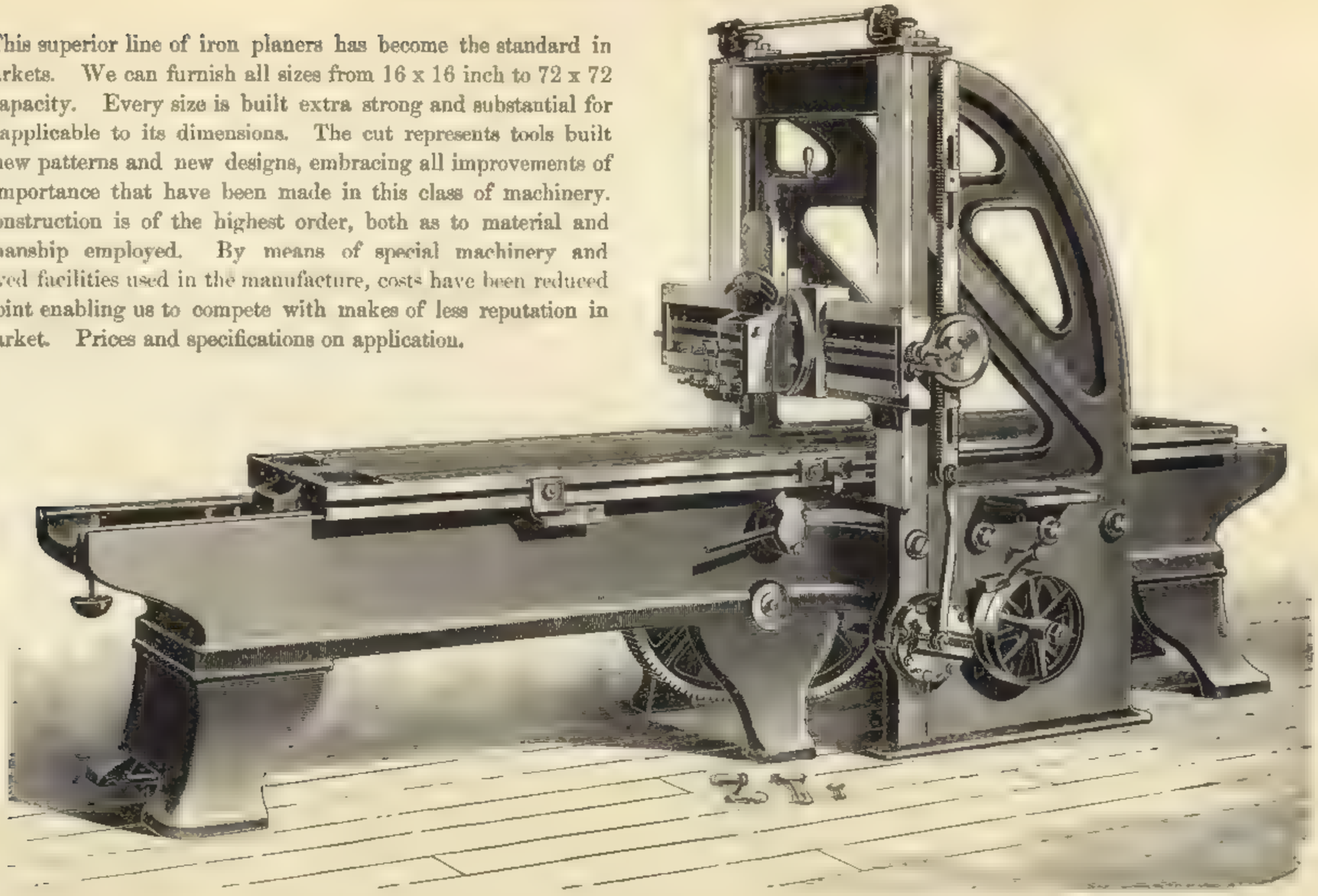
Point Center .....Price each, $1 00

Cup Center..... . ...Price each, 1 00

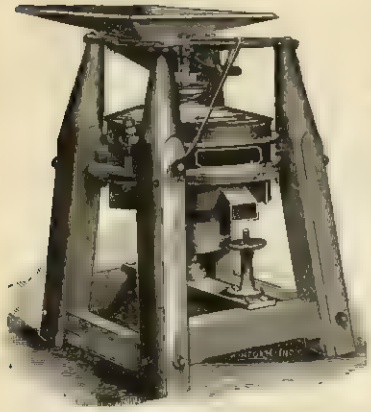
Spur Center.....Price each, 1 00

IMPROVED IRON PLANERS, 30 X 30 INCH.

This superior line of iron planers has become the standard in all markets. We can furnish all sizes from 16 x 16 inch to 72 x 72 inch capacity. Every size is built extra strong and substantial for work applicable to its dimensions. The cut represents tools built from new patterns and new designs, embracing all improvements of any importance that have been made in this class of machinery. The construction is of the highest order, both as to material and workmanship employed. By means of special machinery and improved facilities used in the manufacture, costs have been reduced to a point enabling us to compete with makes of less reputation in the market. Prices and specifications on application.



THE DIXIE MILL, STIFF SPINDLE STYLE.



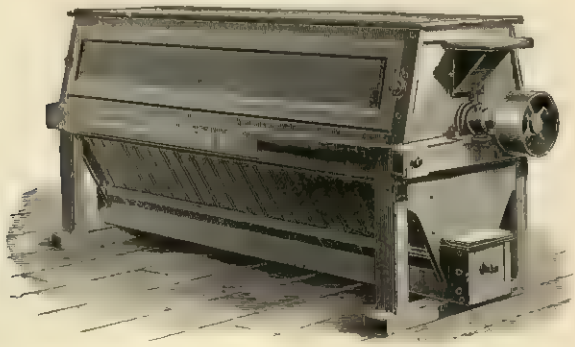
This style of mill has been on the market for the past thirty years, and thousands of users have given their endorsements to it as a mill which is light running, easy to manage and very durable. The Nordyke & Marmon Co. are now the sole manufacturers of these mills in the United States. Suitable for grinding corn, wheat, rye, oats, buckwheat, cotton seed, drugs, minerals, etc. They are built heavy, and have many improvements not found in any other mill. The grinding surfaces are genuine French buhr; each stone is one solid piece. They are faced and furrowed and put in balance, all ready to grind.

The spindle is steel, and runs in anti-friction step. Four rubber springs permit the non-runner to yield in case a hard substance gets in with the grain. Set screws enable the miller to put the mill in perfect tram. Can be driven by steam, water or horse power up to full capacity.

Size.	Power.	Size of Pulley.	Speed.	Capacity.	Weight.		Pulley Mill.	Iron Gear.	Mort. Gear.
					Pulley.	Geared.			
18	4 to 6 H. P.	12x7	600	8 to 25 bu.	900 lbs.	1050 lbs.	$130 00	$165 00	$180 00
22	6 to 8 "	16x7	500	12 to 30 "	1015 "	1200 "	165 00	200 00	225 00
26	8 to 12 "	18x7	440	16 to 40 "	1416 "	1730 "	185 00	220 00	245 00
30	10 to 15 "	20x9	400	25 to 60 "	1760 "	2100 "	215 00	255 00	280 00

Add for sifter attached to mill, $30.00, all sizes.

CORN MEAL BOLT.

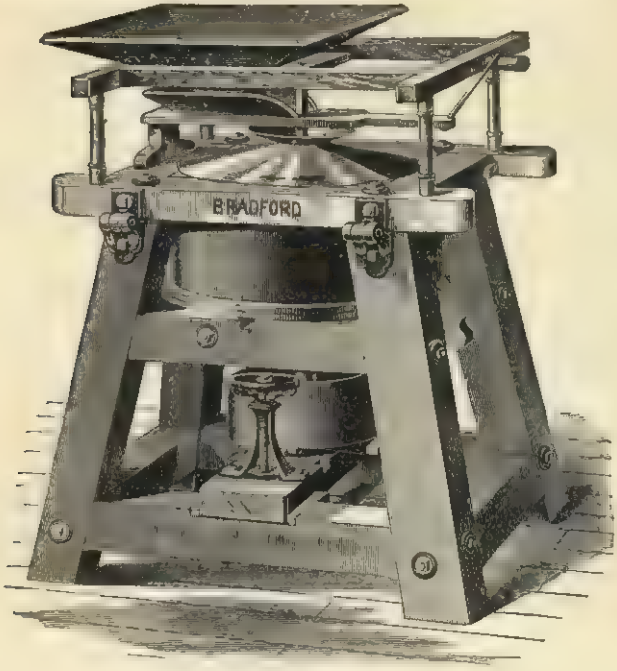


We make two sizes of this style of meal bolt, respectively, 5 feet and 7 feet long, with reels 22 inches in diameter. The reel has iron shaft and iron arms, while the ribs are of beveled wood, to which the cloth is tacked. We do not use cheap wood journal boxes, but self-adjusting metal boxes lined with best of babbit metal. The cloth is plated steel wire, made expressly for bolting, and numbers 18, 20 and 22 wire are those used for common meal. The frame is of hard wood, with mortised joints, and the material throughout is of the highest grade. The conveyor and the cast-iron inlet and outlet spouts are the latest improved.

Prices.

Seven feet x 22 inches	$80 00
Five feet x 22 inches	70 00

BRADFORD'S UPPER AND UNDER RUNNER PORTABLE MILLS.



(Cut shows Under-Runner Mill).

The Nordyke & Mormon Co. are now the sole manufacturers of this celebrated mill. Many thousands have been sold, and they are still a "leader" in the trade.

Bradford Under Runner Mills.

Size of Stones.	Grinding Capacity—Corn. Bu. per hour.	Size of Pulley.	Speed.	Horse Power.	Weights		Pulley Mill.	Geared Mills	
					Single Gear.	Double Gear.		Iron Wheels.	Mortise Wheels.
18 inch.	8 to 10	12x7	600	4	875	1000	$130	$165	$180
20 "	10 to 12	14x7	500	5	950	1050	140	175	190
22 "	12 to 15	16x7	500	5	1035	1150	160	190	210
24 "	15 to 18	16x7	480	6	1175	1325	175	210	225
26 "	18 to 20	18x9	440	8	1225	1400	185	225	250
30 "	20 to 25	20x9	400	10	1500	1700	225	285	290

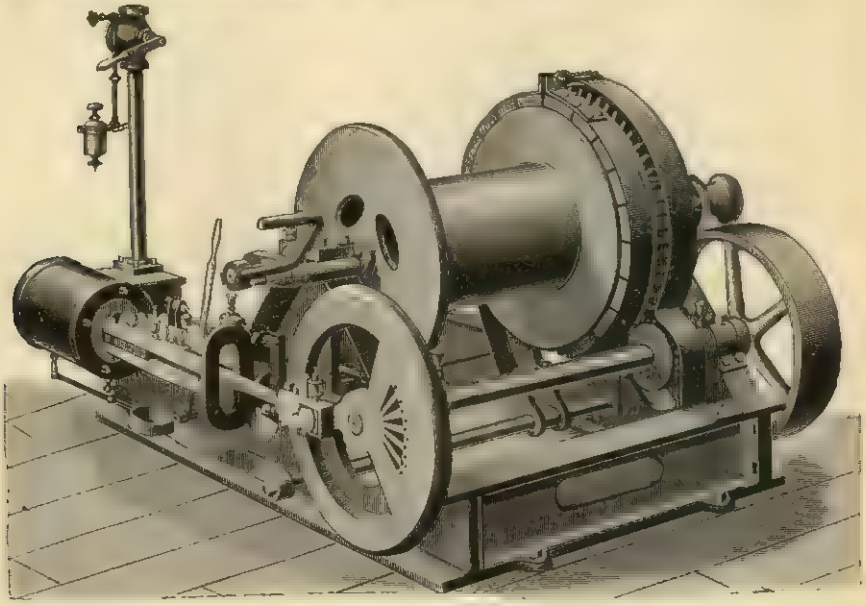
Bradford Upper Runner Mills.

Size of Stones.	Grinding Capacity		Size of Pulley	Speed.	Horse Power.	Weights.		Pulley Mill	Geared Mills.	
	Bu. Corn per hour	Bu. Wheat per hour				Single Gear.	Double Gear.		Iron Wheels	Mortise Wheels
30 inch.	20 to 25	10 to 12	20x 9	360	10	2150	2550	$250	$280	$315
36 "	25 to 30	14 to 17	24x10	300	12	2670	3050	315	335	385
42 "	35 to 40	19 to 21	30x10	240	15	3450	4100	400	340	475

TITAN SINGLE CYLINDER FRICTION HOISTING ENGINE.

Single Drum, with or without Boilers.

This engine is portable and strong and well adapted for contractors' quarries, pile driving, mines, warehouses, ice houses and general hoisting purposes. It is provided with improved friction drum, balance crank wheel, and with or without adjustable wood-lined band foot brake. The fixtures consist of throttle valve, lubricators, oil cups and cylinder cocks. Every engine has winch head on drum shaft, and band wheel on crank shaft.



The crank shafts, crank pins and drum shaft are of steel. The connecting rod is forged from best refined iron. The piston is fitted with metallic packing rings, which are self adjusting. The throttle and friction levers are arranged for easy handling. The friction is cone-shaped, of hard maple sectors, bolted to the spur wheel, and turned to suit the drum, with which it engages when in operation. The drum is loose on the shaft, except where a reversible link motion engine is wanted. It is thrown into friction by a short end motion along the shaft, which is effected by means of a lever screw; the great power of this device being such that a very slight pressure will hold the drum in friction against any load the engine can lift. It is positive in action, works in a hollow shaft clear from dust or dirt, has no friction when not in use, is quicker than any other device used for this purpose, from three to five inches on handle of lever throwing drum in friction against any load—and is more reliable than any other in use.

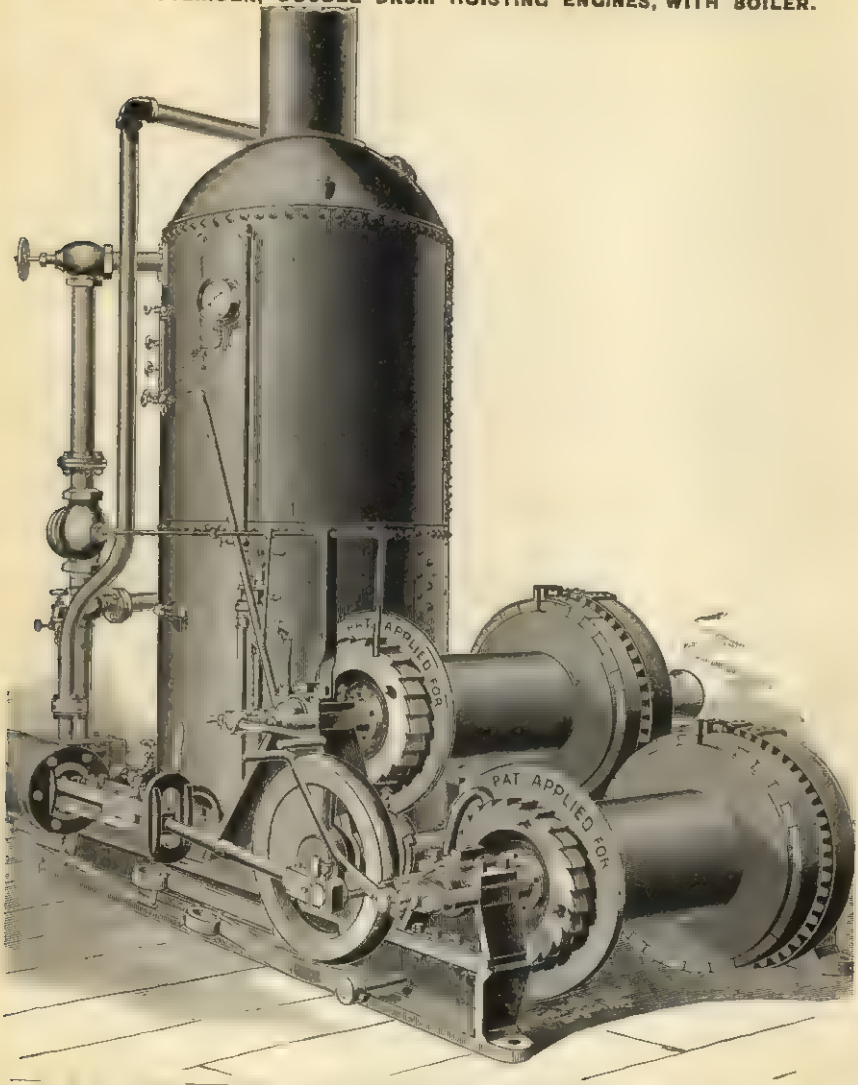
These engines will drive fifty per cent more piles than any clutch and brake engine, with tongs which loosen the grip on the hammer at top of derrick. With this engine the rope remains fastened to the hammer. When raised to desired height friction is loosened, and the hammer descends, overhauling the drum as it falls, without perceptible friction. By using suitably heavy hammer, and striking short, quick blows at first, and heavier blows as the pile is driven home, the head of the pile is not split or damaged, and much time is saved, besides, the pile may be more accurately guided in the driving.

Foot brakes save wear on the drum friction, and assist in holding heavy loads as well as allow the use of engine while load is suspended. They can be applied to any of our engines. They are not an actual necessity, but a valuable assistant and safeguard.

Nominal Horse-Power.	Cylinder	Drum: Diameter	Drum: Length between Flanges	Drum: Diameter Flanges	Floor Space.	Weight, Engine only.	Price of Engine, without brake. No Boiler	Suitable Weight, Pile Driving Hammer, Quick work.	Dimensions of Boilers: Diameter	Dimensions of Boilers: Height	Dimensions of Boilers: No. of 2 in Tubes	Floor Space.	Weight, Engine and Boiler	Price, complete, with Boilers.
4	5 x 8	12	14	32	34x50	1450	$365	1,000	28	72	40	42x65	3,750	$ 660
6	6½ x 8	12	14	32	34x50	1700	405	1,250	30	72	45	44x74	4,400	735
8	6½ x 10	12	14	32	36x50	1750	440	1,400	34	72	60	44x74	4,750	805
10	7½ x10	14	22	36	45x60	2500	495	2,000	36	72	65	44x74	5,500	950
12½	7½ x10	14	22	36	47x60	2600	490	2,500	36	72	65	44x74	6,500	1,025
15	8½x10	14	22	36	47x60	3000	515	3,000	40	84	82	54x84	8,500	1,265
20	9 x12	16	28	36	50x80	4000	735	4,000						

Add for Brake, $30.00, any style listed.

DOUBLE CYLINDER, DOUBLE DRUM HOISTING ENGINES, WITH BOILER.



Number.	Horse-Power.	Cylinders.		Drums			Weight hoisted Single rope, pounds	Suitable Weight. Pile Driv. Hammer Quick work.	Dimensions of Boilers					Floor Space.		Shipping weight, complete, lbs	Price, complete, Boilers, Fittings, Ratchets and Pawls. No Brake.	Price, complete, Boilers, Fittings, Ratchets, Pawls and Brake
		Diameter Inches	Stroke Inches	Diameter Inches	Length Inches	Diameter Flanges			Diameter	Height	No of 2 inch Tubes.	Height Furnace.	Diameter Furnace	Width Inches	Length Inches			
50 A	12	6¾	8	14	32	26	3000	2000	36	72	65	24	32	62	87	7500	$1,220	$1,270
52	20	7	10	14	32	26	5000	4000	40	84	82	28	35	62	87	9300	1,365	1,415
53	30	8½	10	14	32	26	7250	6000	42	90	92	30	37	62	87	10500	1 440	1 490
54	40	9	12	18	33	30	10000	8000	44	96	110	30	39	62	87	12000	1,510	1,560
									48	102	124	32	42	66	101	18000	2 400	2,500

TRIPLEX ELECTRIC POWER PUMP.

For Elevations to 300 Feet or Equivalent Pressure.

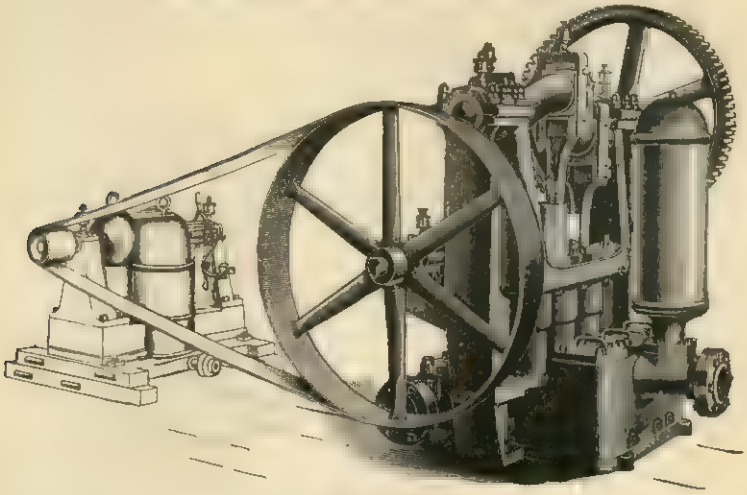


Fig. 926.

This is our standard type of Triplex Electric Power Pump, designed to be driven with belt by electric or other motor. The pump and motor may be placed upon any stable support 10 or 12 feet apart. Pump has large valve area, which insures efficiency and smooth running at high speed. Connecting rods have bronze bushed bearings in plungers and strap heads at cranks with phosphor-bronze boxes, with adjustment for wear. Gear is machine-cut, and pinion rawhide, with bronze shroud. Our regular construction is iron plungers, cylinders, glands and bronze valves with rubber discs, for cold water. Working parts will be made of bronze, or other material, to order at suitable charge. Driving pulley is not included in prices below, but will be supplied at market rates.

In ordering, please state speed, diameter and face of motor pulley, from which we can estimate proper size of pump pulley. Pump is geared 5 to 1.

PLUNGERS		Gallons per Revolution.	Revolutions per Minute.	SIZES OF PIPES.		Approximate Weight.	PRICE.
Diameter.	Stroke.			Suction.	Discharge		
1¼″	2 ″	0.03	40 to 60	¾″	¾″	100 lbs.	$ 50 00
1⅜″	2½″	0.07	40 to 60	1¼″	1¼″	180 lbs.	75 00
2 ″	3 ″	0.12	30 to 50	1¼″	1¼″	235 lbs.	100 00
2½″	4 ″	0.25	30 to 50	1½″	1½″	350 lbs.	125 00
3 ″	4 ″	0.36	30 to 50	1½″	1½″	525 lbs.	140 00
4 ″	4 ″	0.65	25 to 45	2 ″	2 ″	750 lbs.	200 00
4 ″	6 ″	1.0	25 to 45	2 ″	2 ″	800 lbs.	250 00
5 ″	6 ″	1.5	25 to 45	3 ″	3 ″	1,800 lbs.	330 00
5 ″	8 ″	2.0	20 to 40	3 ″	3 ″	1,850 lbs.	375 00
6½″	8 ″	3.4	20 to 40	4 ″	4 ″	3,600 lbs.	575 00
8 ″	8 ″	5.2	20 to 40	5 ″	4 ″	5,800 lbs.	700 00
8 ″	10 ″	6.5	20 to 40	5 ″	4 ″	6,750 lbs.	900 00
9 ″	10 ″	8.2	20 to 40	6 ″	5 ″	11,000 lbs.	1,500 00

CHALLENGE STEAM OR BELT POWER PUMPS.

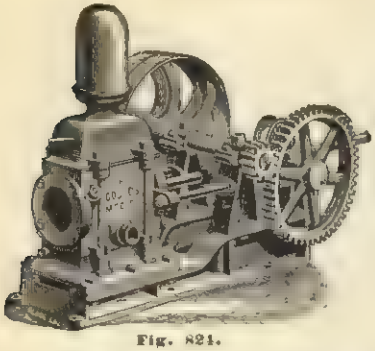


Fig. 824.

Fig. 824 is our Challenge Force Pump mounted on strong iron frame with gearing, tight and loose pulleys, etc., and is adapted for feeding boilers or working in any place or capacity under heavy pressure. The pump is geared 4 to 1, and for continuous service the pulley shaft may be run between 140 to 160 revolutions per minute, and against 75 pounds pressure per square inch. For feeding boilers, the piston should be made of brass, for which an extra charge is made. Stroke, 4½ inches. Nos. 2, 4 and 8 have outboard bearing to pulleys.

No.	Diameter Cylinder.	Suction.	Discharge.	Gallons per Revolution	Price.
2	2½"	1¼"	1"	¼	$ 75 00
4	3"	1½"	1"	½	80 00
8	4	1½"	1¼"	1	85 00
12	5	2	1½"	1½	115 00
16	6"	2½"	2"	1¾	135 00

Fig. 603 is our Challenge Pump mounted on cast-iron bed plate, with tight and loose pulleys, 4 inches face and 18 inches diameter. The piston is worked from a crank with a link motion, the crank pin working in a solid gun-metal box. A guide on under side of the link prevents all undue wear of the piston rod and stuffing box. The pump may be run 25 to 30 revolutions per minute, and against 50 pounds pressure per square inch. Stroke, 4½ inches.

No.	Cylinder.	Suction.	Discharge.	Gallons per Revolution.	Price.
4	3"	1½"	1"	½	$70 00
8	4"	1½"	1¼"	¾	75 00

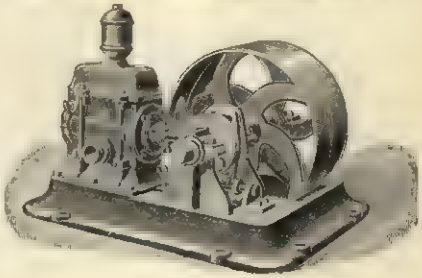


Fig. 603.

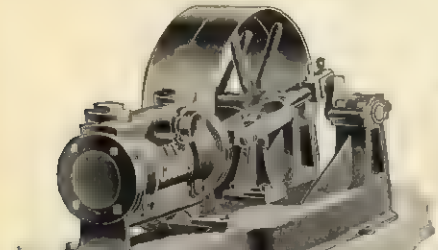


Fig. 1004.

DOUBLE ACTING POWER PUMP.

Fig. 1004.

For Elevations to Twenty-Five Feet or Equivalent Pressure.

This new double acting Suction and Force Pump has machine cut gears, brass-lined cylinder, brass valves and valve seats. The discharge valves are accessible through ports or hand holes closed with plugs, and the suction valves below may be reached by removing either cylinder head.

The solid piston is double crimped packed. Piston rod, of steel, works through brass stuffing box.

This pump is especially adapted to pumping oil from tank cars, or for any work of low pressure.

Diameter of cylinder, 5 inches; stroke, 5 inches, gallons per revolution, 7/8; suction and discharge, 2 inches; pulleys each, 20 x 4 inches; price, $75.00.

"ALERT" SUCTION AND FORCE PUMP.

For Power. For Fifty Feet Elevations, or Equivalent Pressure.

Fig. 785½ is a light service pump. It has a substantial bed plate, machine-cut gear and pinion, pulley to be driven by belt (tight and loose pulleys and outboard bearing at extra price), leather valves, brass-cased piston rod, cup-leather packed piston. Brass-lined cylinder at special price. Suction and discharge connections on both sides of cylinder, tapped for standard wrought iron pipe. Fitted for hose at extra price. Geared 4 to 1. Pulley 20 x 3 inches.

CYLINDER.		Gallons Per Revolution.	Suction.	Discharge	Price
Diameter.	Stroke.				
3"	5"	.30	1¼"	1"	$55 00
3½"	5"	.42	1½"	1¼"	75 00
4"	5"	.54	1½"	1¼"	85 00

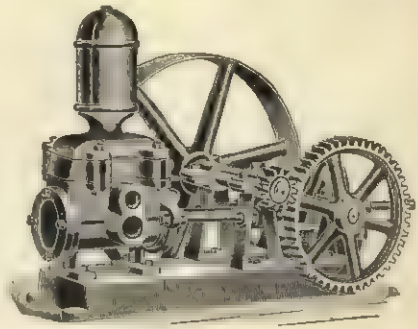


Fig. 785½.

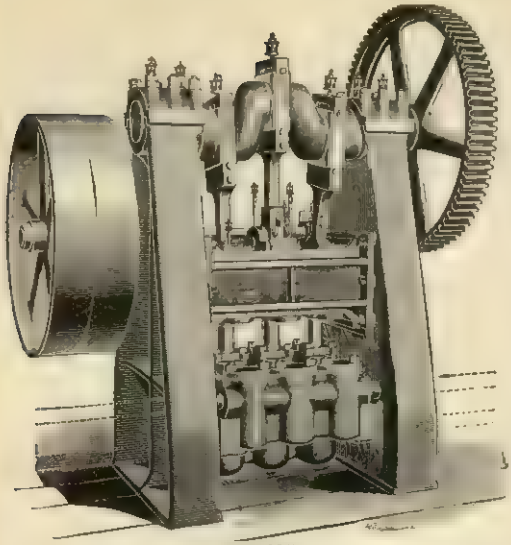


Fig. 997.

HYDRAULIC PRESSURE PUMP.

Our Triplex Power Pressure Pump is designed for use in connection with cotton presses, hydraulic presses and cranes, oil mills, pipe works, deep mining, etc. It has three single-acting plungers, outside-packed, outside-guided and outside-connected, operated by a powerfully geared three-throw steel crank shaft. Plungers are regularly made of steel, but can be made of gun metal, phosphor-bronze or other material, to order. The connecting rods are forged steel, with strap heads and phosphor-bronze boxes. In making inquiries and orders for this class of Pumps, state as fully as possible intended service and requirements.

No.	Plungers. Dia.	Plungers. Stroke.	Capacity, One Rev. of Crank Shaft.	Speed per Min., varying with Kind of Work and Pressure.	Pounds Pressure per Sq. Inch	Sizes of Pipe. Suc.	Sizes of Pipe. Dis.	Geared	Tight and Loose Pulleys.	PRICE.
A	1 "	4"	9.4 cu. in., 0.04 Gals.	40 to 70	1500	1¼"	1 "	5 to 1	16 x 3	$ 375 00
B	¾"	6"	7.9 cu. in., 0.03 Gals.	40 to 70	3000	1 "	¾"	7 to 1	26 x 4	550 00
I	2 "	6"	56 cu. in., 0.24 Gals.	40 to 70	1500	2 "	1½"	5 to 1	30 x 5	950 00
C	2½"	8"	95 cu. in., 0.41 Gals.	40 to 60	1500	3 "	2 "	5 to 1	36 x 6½	1,250 00
D	4½"	8"	381 cu. in., 1.65 Gals.	30 to 50	400	3 "	3 "	5 to 1	36 x 6½	1 150 00
E	6¾"	8"	796 cu. in., 3.45 Gals.	25 to 50	200	4 "	4 "	5 to 1	36 x 6½	1 100 00
F	3 "	8"	169 cu. in., 0.73 Gals.	30 to 50	1500	3 "	2 "	5 to 1	42 x 6½	1 500 00
G	4½"	8"	381 cu. in., 1.65 Gals.	30 to 50	600	3 "	3 "	5 to 1	42 x 6½	1,400 00
H	6¾"	8"	796 cu. in., 3.44 Gals.	25 to 50	300	4 "	4 "	5 to 1	42 x 6½	1,300 00

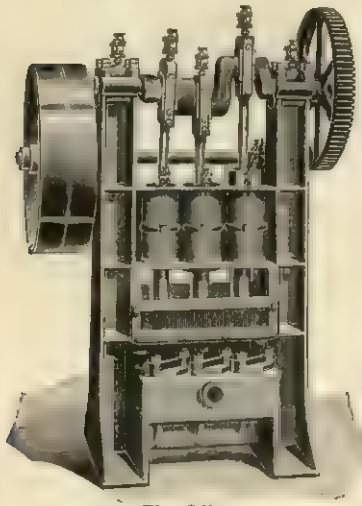


Fig. 998.

TRIPLEX POWER AMMONIA PUMP.

This Pump is constructed for pumping aqua ammonia in connection with refrigerating machinery for cold storage and ice-making plants. It runs uniformly, and does its work without being constantly watched and adjusted. The joints and connections of the ammonia coils and piping are spared the shock and leakages incidental to the use of many other types of ammonia pumps.

It has outside-connected and outside-packed plungers; it occupies but limited floor space, and requires no special foundation. The plungers have water seal. The connecting rods have strap heads, and phosphor-bronze boxes. The crank shaft is steel, and runs in bronze bearings. These Pumps are built wholly of material unaffected by ammoniacal liquid, and are proportioned to sustain the exacting and continuous service of refrigerating plants. Geared 5 to 1. Limit of pressure, 250 pounds.

Diameter, Plungers.	Stroke	Capacity One Revolution of Crank Shaft.	Revs. per Minute, varying with Work and Pressure	Suction	Discharge	Tight and Loose Pulleys.	PRICE.
1½"	4"	14.7 cu. in., .06 Gals.	35 to 50	1 "	¾"	16 x 3"	$260 00
1⅞"	6"	40 cu. in., .21 Gals.	35 to 50	1¼"	1 "	20 x 3"	375 00
2½"	6"	88 cu. in., .51 Gals.	35 to 50	1½"	1¼"	24 x 3"	475 00
3½"	8"	251 cu. in., 1.0 Gals.	35 to 50	2 "	2 "	30 x 4"	550 00

LIGHT SERVICE TRIPLEX PUMP.

For Elevations to 100 Feet, or Equivalent Pressure.

This pump is designed for filling tanks and reservoirs, and similar light service.

It has large valve area, outside packed plungers with water seal, phosphor bronze boxes, machine-cut gear and pinion. Regular construction includes iron plungers, cylinders and glands, bronze valves, rubber face discs, for cold water. Construction can be changed to meet requirements.

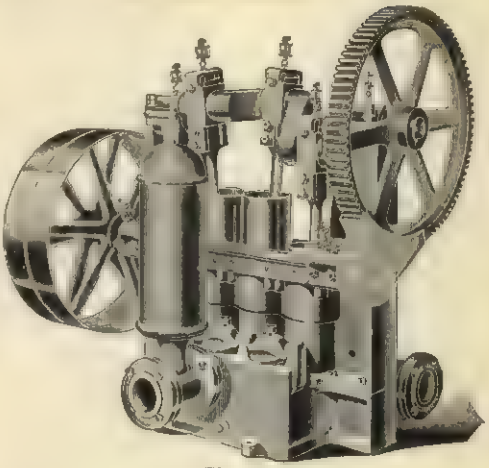
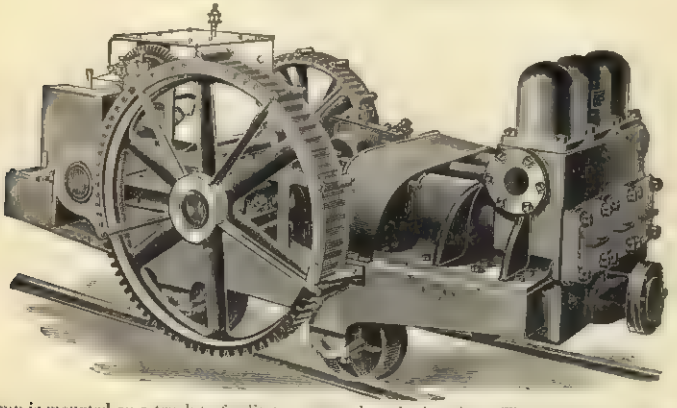


Fig. 957.

Diameter Plungers	Stroke	Gallons per Rev	Revolutions per Minute	Gallons per Minute	Suction	Discharge	Geared	Pulleys.	Price.
7″	8″	4.	20 to 45	80 to 180	4″	4″	4 to 1	30 x 6	$400 00
8″	10″	6.5	20 to 40	130 to 260	6″	5″	5 to 1	36 x 6	700 00
8″	12″	7.8	20 to 40	156 to 312	6″	5″	5 to 1	36 x 6	750 00

HORIZONTAL TRIPLEX ELECTRIC MINE PUMP.

For Elevations to 360 Feet, or Equivalent Pressure.



This pump is mounted on a truck to facilitate moving about in the mine. The plungers are phosphor-bronze, and outside packed. The cylinders and glands are bronze-lined. The gearing is machine cut, and runs quietly. The motor pinion is bronze. The crank bearings are phosphor-bronze, with adjustment for taking up wear. The crank shaft and pump pinion are geared 5 to 1. Speed, 20 to 40 revolutions per minute. The truck, complete, is included with pump, also the pinion on motor shaft, and the other gearing necessary to complete connection of motor to pump, *but not the motor.* We require working drawing of the motor to be used, speed, etc., also width of track.

MADE IN THREE SIZES: 5-in. diameter of plunger, 8-in. stroke; capacity, 2 gallons per revolution of crank shaft; suction and discharge pipe, 3 in. Price, $750. 6¼-in. diameter of plunger, 8-in. stroke; capacity, 3 4 gallons per revolution of crank shaft; suction and discharge, 4-in. Price, $1,025. 8 in diameter of plunger; 5.2 gallons per revolution of crank shaft; suction, 5-in.; discharge, 4-in. Price, $1,500.

Scoop Factory

That's what we run. We're busy year in and year out hammering away at Scoops. We make all grades, but pride ourselves on our

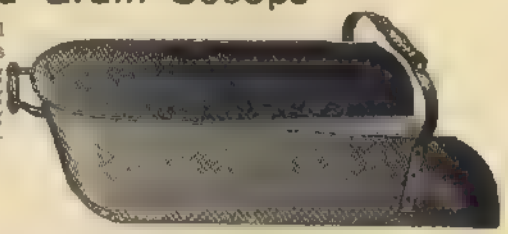
Extra Galvanized Sugar Scoops

See that Extra Galv. Phila. Scoop Co is stamped on your Scoop. None other is genuine or warranted

Brass Candy Pans, Bag Fillers and Scoops

Acto Extra Galvanized Grain Scoops

These Scoops are made from Grey Steel in one piece, having no seam across the bottom, thus preventing the cutting of the floor, as is the case in using other styles of Grain Scoops, and being galvanized after being made up prevents rusting.



Send for Catalogue and Prices of Entire Line

PHILADELPHIA SCOOP CO., 143 No. 2nd St. Philadelphia, Pa., U. S. A.

THE BANNER HOLIDAY ARTICLE FOR 1896

NOT HOW CHEAP, BUT HOW GOOD

THEY'RE A WORK OF ART, THEY SELL ON SIGHT

Their virtues, like Hood's Sarsaparilla, cannot all be mentioned in this small space

ASBESTOS SAD IRONS

DO NOT DELAY, ORDER TO-DAY

Our Holiday Offer

We will send you on 30 Days Sight memorandum one dozen or more sets of these Irons, returnable at any time during the 30 days we are to pay express charges both ways. With every order of one dozen or more sets we will send you one set of these Matchless Irons, gratis, as a Holiday Gift. Offer void after Dec. 31st.

Wholesale Price, $15 Per Dozen Sets. Retail Price, $2 Per Set.

A set consists of one handle and cover combined, three cores and one asbestos mat or stand. We also furnish free printed matter, engravings and electrotype for newspaper advertising, if desired. Order at once or write for descriptive circular.

TVERDAHL-JOHNSON CO., LOCK BOX 27. Stoughton, Wis.

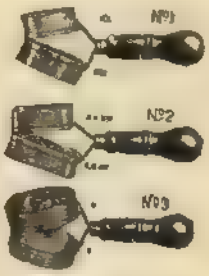
HARDWARE SPECIALTIES DEALER

Housekeepers' Favorites

...AND

Dealers' Helps to Trade

LEACH ROASTERS AND BAKERS
ABELL COFFEE POTS
LEBANON CAKE CUTTERS
LEBANON EGG BEATERS AND POTATO MASHERS
PAXTON STOVE-PIPE SHELVES
MAGIC DISH DRAINERS
LYON'S DISH WASHERS
COMBINATION DIPPERS



A COMPLETE line of kitchen and housekeeping Hardware. New Specialties every few weeks. Send postal card for latest catalogue and discount sheet. It will cost but one cent, and may lead to many dollars of profit to you

Inventors having meritorious devices in the line of kitchen hardware are invited to correspond with us. We are always at home, attending to business

Paxton Hardware Mfg. Co.

PAXTON, ILL.

THE

Standard Dripless Tea and Coffee Strainer

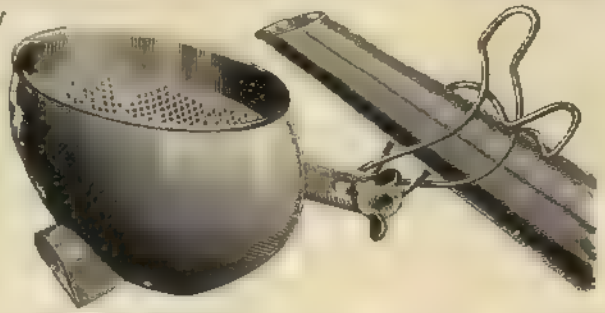
1,000,000 Already in Use

The only perfect strainer ever invented
No drips—Does not fall off
Will outwear a dozen pots
Sells every day in the year
Every dealer can sell them

WRITE FOR PRICES

STANDARD STRAINER CO.

24 Maiden Lane, New York



THE ONLY DRIPLESS STRAINER IN THE WORLD

Convenient Quick Sellers

Gem Milk Pail

With Removable Strainer

The only Milk Pail that nests
Saves Freight. Quick Sellers

For sale by all Jobbers

MANUFACTURED BY

BRANDON MFG. CO.

ST. LOUIS MO.

Compact—Saves Freight

QUEEN CITY SUPPLY CO. CINCINNATI, O.

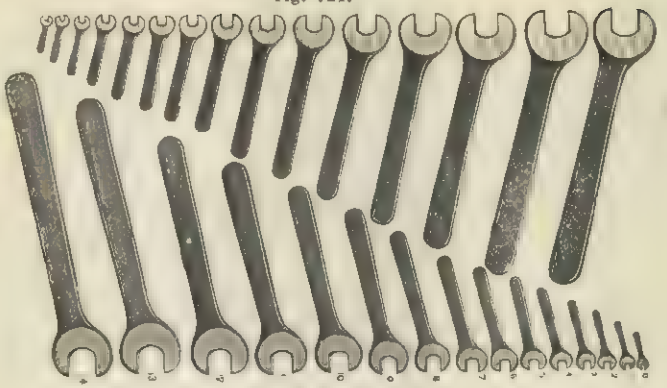
PUCHTA'S Patent

ENGINEER'S WRENCHES.

Drop Forged from Bar Steel.

Fig. 721.

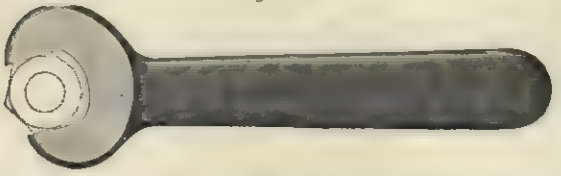
(UNFINISHED.)



(FINISHED.)

Reduced Cuts, Finished and Unfinished.

Fig. 722.



No. 1. Single Head, exact size.

These Wrenches are particularly adapted for Machine Tools, Locomotives, Pumps, Steam or Gas Engines and general shop use. The opening forms an angle of fifteen degrees with the handle, which admits of turning a hexagon nut completely around where the swing of the handle is limited to thirty degrees. The finished Wrenches are polished, case hardened and milled to fit U. S. Standard nuts.

Number.	Size Bolt, U. S. Standard Nuts	Opening Unfinished.	Opening Finished.	Extreme Length.	Thickness Head	Price Unfinished.	Price Finished
0	¼	⅜	⅜	2⅞	⅜	$0.09	$0 18
1	⅜	½	½	3¾	½	10	20
2	½	⅝	⅝	4¾	⅝	12	24
3	⅝	¾	¾	5⅝	¾	14	28
4	¾	⅞	⅞	6½	⅞	17	.34
5	⅞	1	1	7½	1	.30	60
6	1	1⅛	1⅛	8⅜	1⅛	25	50
7	1⅛	1¼	1¼	9¼	1¼	32	.64
8	1¼	1⅜	1⅜	11⅛	1⅜	40	80
9	1⅜	1½	1½	13	1½	50	1 00
10	1½	1⅝	1⅝	14⅞	1⅝	65	1 30
11	1⅝	1¾	1¾	16⅝	1¾	.85	1.70
12	1¾	1⅞	2	18½	1⅞	1 10	2.20
13	1⅞	2	2⅛	20¼	2	1 40	2 80
14	2	2⅛	2⅜	22¾	2⅛	1 75	3.50
15	2⅛	2¼	2½	24	2¼	2 10	4 20
16	2¼	2⅜	2¾	25⅜	2⅜	2 50	5.00
17	2½	3	3⅜	29½	3	3 50	7.00
18	2¾	3⅛	3½	33	3⅛	4 75	9.50

WRENCHES.

Fig. 716.

No. 1 Alligator.

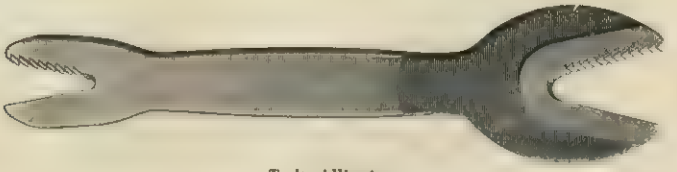
No. 1 Alligator Wrench.—Length, 5½ inches; holds round iron, ¼ to ⅝ inch; holds pipe, ⅜ to ⅝ inch.
Per Dozen.....$4.00

Fig. 717.

No. 2 Alligator.

No. 2 Alligator Wrench.—Length, 9 inches; holds round iron, ½ to 1 inch; holds pipe, ⅜ to ¾ inch.
Per Dozen.....$12.00
No. 3 Alligator Wrench.—Length 16 inches; holds round iron, ⅝ to 1½ inch; holds pipe, ¾ to 1¼ inch.
Per Dozen.....$24.00

Fig. 718.



Twin Alligator.

Twin Alligator Wrench.—Length, 10 inches; holds round iron, ¾ to 1 inch; holds pipe, ½ to ¾ inch.
Per Dozen.....$18.00

Fig. 719.

Acme.

Inches	4½	6	8	10	12	15	18	21
Bright, per Dozen	$8.00	$9.00	$10.00	$12.00	$14.00	$24.00	$30.00	$36.00
Nickel-Plated	9.60	10.80	12.60	15.00	18.00	28.80	36.00	57.00

Fig. 720.

Coe's Knife Handle.

Bright.				Black.			
4 inches	per doz,	$10.00		6 inches	per doz,	$ 9.00	
6 "	"	10.00		8 "	"	10.00	
8 "	"	11.00		10 "	"	12.00	
10 "	"	14.00		12 "	"	14.00	
12 "	"	16.00		15 "	"	24.00	
15 "	"	26.00		18 "	"	30.00	
18 "	"	32.00		21 "	"	36.00	
21 "	"	38.00					

QUEEN CITY SUPPLY CO. CINCINNATI, O.

POLISHING LEATHER.

Fig. 174.

Walrus or Sea Horse.

WALRUS. This leather is deservedly popular with all polishers of Metals, and is suited to all kinds of work. The Calf Walrus being very fine grain, makes good covering for wheels, while the older hides have a peculiar coarse grain suited for silver, brass or steel polishing. It is valued by the thickness. The young Walrus hide tanned, weighs about 25 lbs., and is about one-half inch thick, while the older hides weigh from 60 to 180 lbs. each, and are from three-quarters to one and a half inch thick.
Price, per pound (according to thickness).....60c. to $2.00

SEA LION. The grain of this leather is quite soft and it is valued highly by workers in soft metals. The tanned hides weigh from 20 to 60 lbs. each, and are from one quarter to three-quarter inches thick.
Price, per pound..... 30 to 70 cents.

Fig. 175.

BUFFALO.

BUFFALO. These hides come from South Africa, and are quite different from the American Bison, often called Buffalo. They weigh from 25 to 45 lbs. each, and are ½ to 1 inch thick. The leather is hard and durable and highly valued by polishers of steel and iron.
Price, per pound.....50c. to $1 00

Fig. 176.

HIPPOPOTAMUS.

HIPPOPOTAMUS. The Hippopotamus or River Horse is found in all parts of Africa. The hides, when tanned, weigh about 150 lbs., and are over an inch thick. They are close grain and very hard; too hard for any but special work.
Price, per pound.....$2.00

POLISHING LEATHER.

Fig. 177.

GIRAFFE.

GIRAFFE. The hides, when tanned are close grain and quite hard They weigh 40 to 50 lbs., each, and are about one-half inch thick.

Price, per pound..... $1.25

ELEPHANT LEATHER. These hides, when tanned, are one-half to three quarter inch thick, and weigh about 70 lbs. The leather is soft and spongy, and only suitable for soft buffs.

Price, per pound..... $1.25

ENGLISH BENDS. We carry a full stock of regular and extra thick sides of this celebrated leather which is perhaps the most durable leather made for all purposes. Price, per pound..... 60 to 90 cents.

BULL NECKS. Bull necks need no description. We handle English and American tanned, and carry a large stock of both kinds, including extra thick.

Price, per pound.....30 to 60 cents.

WALRUS POLISHING WHEELS.

Fig. 178.

We cut discs from this leather of any size from two to thirty inches diameter.

Wheels cut from Walrus,				¾	inch	thick,	rough,	per lb.,	$1.25.	Turned off,	per lb.,	$1 50
"	"	"	"	¾	"	"	"		1.50.	"	"	1.75
"	"	"	"	1	"	"	"		2 00.	"	"	2.25
"	"	"	"	1½	"	"	"		2.50.	"	"	2 75

We also make wheels of any width of face and thickness by cementing two or more pieces together. When ordering wheels, please state thickness of walrus wanted, otherwise ½ inch will be used.

Chamoise Skins	per doz.,	Sole Leather	per pound,
Sheep Skin	"	Pump "	"

Wood Screws.

For Illustrations and List see Preceding Pages.

DESCRIPTION.	DISCOUNT.
Flat Head Bright, see List on page 435,	%
Round Head Blued, List same as Flat Head Bright, see page 435,	%
Flat Head Brass, see List on page 435,	%
Round Head Brass, see List on page 435,	%
Flat Head Japanned, List same as Flat Head Bright, page 435,	%
Round Head Nickel Plated, see List on page 432,	%
Flat Head Bright, Diamond Point Screw Nails, List same as Flat Head Bright Screws, see page 435,	%

Screw Cases

With Independent Revolving Shelves.

NO. OF COMPARTMENTS	WEIGHT OF	DIAMETER AT	WEIGHT	PRICE.
68	[illegible]	[illegible]	[illegible]	$20 00
99	25 inches.	19½ inches.	Ab't 174 lbs.	31 50
113	32 inches.	30½ inches.	Ab't 188 lbs.	37 50

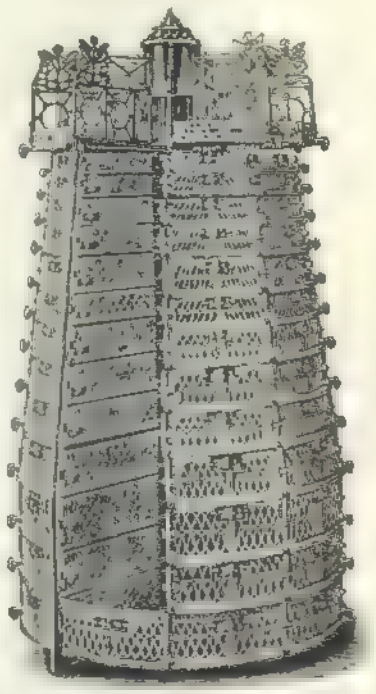
[illegible] Screws [illegible] to 3.90

99 [illegible]

90 [illegible]

Each article or [illegible] is turned on a perfectly turned cup. These [illegible] of [illegible] are [illegible] together, make a perfect [illegible] and [illegible]. Each [illegible] has [illegible] set screw, which a sound [illegible] the [illegible] the [illegible] numbers, indicating the contents of the different compartments. These numbers can be changed as desired. The locking device is on the outside, and makes a positive lock, and one not liable to get out of order.

Bolt Cases.



With Independent Revolving Shelves.

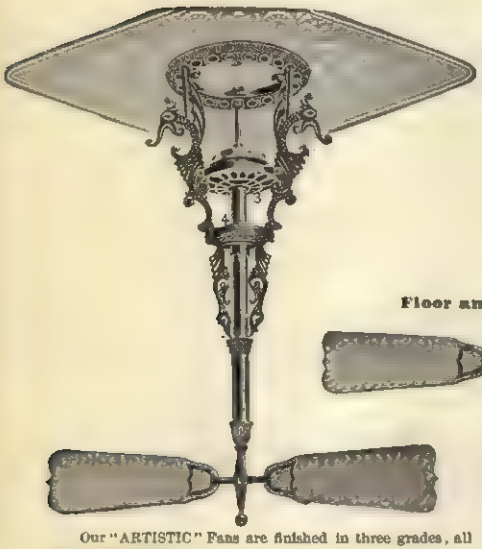
NO.	WEIGHT OF [illegible]	DIAMETER [illegible]	DIAMETER [illegible]	WEIGHT PACKED.	PRICE.
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	42 inches.	34 inches.	24 inches.	Ab't 660 lbs.	$3 00

The [illegible] consists of [illegible] rack, eight compartments on each shelf [illegible] ver, which [illegible] top [illegible] holders of compartments. No. 2 Case has two [illegible] 80 [illegible], 113 compartments. The compartments are large, and will hold full packages of the different sizes. Each compartment [illegible] for holding [illegible] These can be changed as [illegible] desired. The [illegible] are [illegible] and are [illegible] bolts. The [illegible] riveted [illegible] the outside. Each arm or partition of a shelf is held in its own position by the bottom ring, the [illegible] of the compartments are bolted to the ends of the arms, making a strong and perfectly rigid shelf, and the shelf revolves on a perfectly turned cup. Weight on one side only will not affect the revolving of the shelf. The locking attachment is placed on the outside, makes a positive lock, and is not liable to get out of order.

ROTARY VENTILATING FANS—Belt Driven.

With or Without Patent Blade Adjusters and Ball Bearings.

"Artistic."



Our "ARTISTIC" Fans are finished in three grades, all with solid carriers.

No. 1—Bronzed metal work, veneered blades.

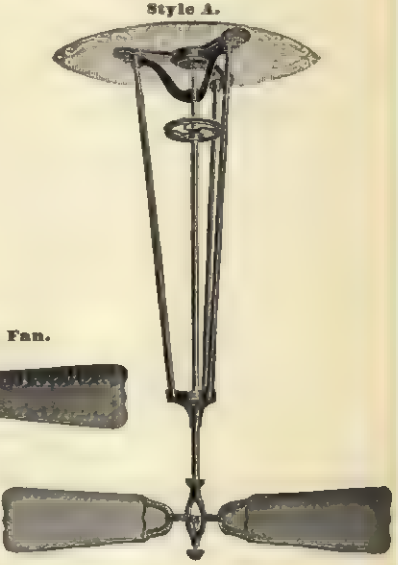
No. 2—Japanned metal work, stained or painted blades.

No. 3—Japanned and ornamented castings, nickel stem, and magnolia veneered blades.

PRICE LIST ARTISTIC FANS.

Height of Ceiling.	Grade 1.	Grade 2.	Grade 3.
13 feet	$21 50	25 25	29 00
14 feet.	22 00	26 00	30 10
15 feet.	23 00	27 50	32 30
16 feet	24 00	29 00	34 50
17 feet	25 00	30 50	36 70
18 feet.	26 00	32 00	38 90
19 feet.	27 00	33 50	41 10

Style A.



STYLE A Fans are finished in 2 styles.

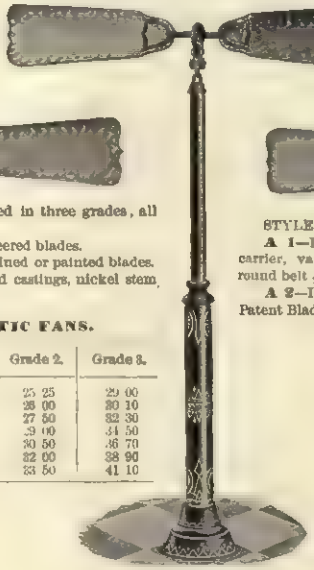
A 1—Is Japanned and bronzed, with solid blade carrier, varnished blades and grooved pulley for round belt $\frac{1}{4}$ or $\frac{5}{8}$.

A 2—Is finished same as style A 1, besides having Patent Blade Adjuster.

PRICE LIST STYLE A FANS.

Height of Ceiling.	Style A 1	Style A 2.
8 feet	$6 00	$ 8 00
9 feet.	7 00	9 00
10 feet.	8 00	10 00
11 feet	9 00	11 00
12 feet.	10 00	12 00
13 feet.	11 00	13 00
14 feet.	12 00	14 00
15 feet.	13 00	15 00
16 feet.	14 00	16 00

Floor and Counter Fan.



PRICE LIST OF FLOOR AND COUNTER FANS.

No. 1 Grade—Entire Fan including base and top, all bronzed ..... $ 8 50

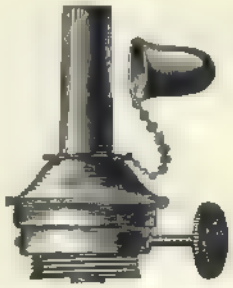
No. 2 Grade—Base bronzed and entire column highly polished, brass tube covering 27 00

No. 3 Grade—Base japanned and ornamented with ent re upper column nickel-plated and veneered blades 37 00

No. 4 Grade—Base and entire top, including adjuster highly nickel-plated and polished veneered blades 44 75

Add $2 50, all sizes and styles, for ball bearings. Add $3.00 for patent blade adjusters. From one-eighth to one-tenth H. P. is required to run Rotary Fans at maximum speed. With patent blade adjusters the fan blades may be set any angle while running From 10 to 15 fans can be run per horse power.

Cigar Lighters and Globes.



NO.	DESCRIPTION.	PER DOZ.
	Cigar Lighter Burner, - -	$1 20
	Globe Rings for Cigar Lighters,	80
	Wicks for Cigar Lighters, -	06

NO.	DESCRIPTION	EACH.
313	Cigar Lighter with Decorated Center, Black Iron Base, Polished Brass Trimmings - - - -	$2 00

Height to Burner, 6½ inches.

NO.	DESCRIPTION.	EACH.
314	Cigar Lighter with Decorated Center, Black Iron Base, Polished Brass Trimmings, - - - -	$3 00

Height to Burner, 6½ inches.

Globes for Cigar Lighters.

Round Globes as Shown on No. 314 Cigar Lighter

DESCRIPTION.	PER DOZ.
Opal, Blue, Green, Amber or Amethyst, -	$1 20
Ruby, - - - - - - -	1 70

For other Cigar Lighters see next page.

NO.	DESCRIPTION	EACH.
317	Cigar Lighter, with Ruby Polka Dot Vase, complete with Burner and Ruby Globe as shown, -	$6 00

Height to Burner, 8½ inches. Antique Brass Trimming, Detachable Oil Fount.

NO.	DESCRIPTION.	EACH.
D303	Cigar Lighter, Assorted Decorations,	$4 50

Cigar Lighters.

NO.	DESCRIPTION	EACH
307	Cigar Lighter, Antique Brass Finish, with Polka Dot globe as shown on No. 309. Heavy cast metal, detachable Oil Fount,	$11 00

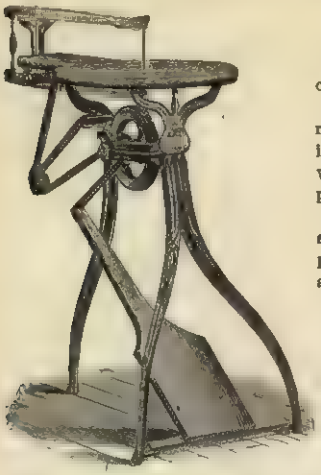
Height to Burner, 11 inches.

NO.	DESCRIPTION	EACH
304	Cigar Lighter, Antique Brass Finish, complete as shown above, detachable Oil Fount,	$3 75
305	Same, Silver Relief Finish,	4 00

Height to Burner, 7½ inches.

NO.	DESCRIPTION	EACH
309	Cigar Lighter, Handsomely Decorated, Bisque Finish, Polished Brass Trimmings, Black Iron Base, complete as shown above,	$2 50

Height to Burner, 7 inches.



SCROLL SAW, No. 7.

Price Reduced to $15.00.

This machine is designed for practical service in the workshops of carpenters and builders, cabinet makers and other wood workers.

It is well made, of good material and workmanship, and with reasonable practice will saw at the following rates: Pine, three inches thick, 1 foot per minute; one inch thick, 4 feet per minute; walnut, three inches thick, ½ foot per minute; 1 inch thick, 2 feet per minute, and other woods and thicknesses at proportionate rates.

The ordinary rate of speed when sawing is from 800 to 1200 strokes per minute. The saw leaves the work as smooth as it is possible for any saw to do, and can be taken out and replaced in an instant for inside work.

The swing round the blade, under the arm, is 24 inches.
The length of the blade is 7 inches.
The table and arms are made of hard maple.
The frame is made of cast-iron, strong, yet light.
The balance wheel runs on a steel arbor.
The machine weighs 55 pounds.
Boxed, ready for shipment, it weighs 80 pounds.
We include one dozen blades with each machine.

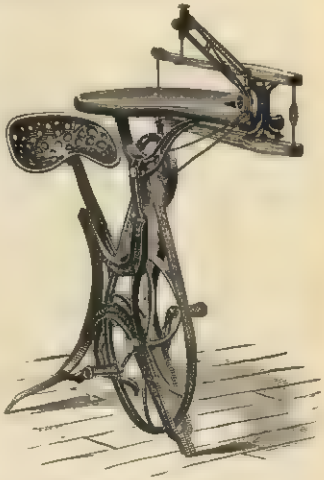
VELOCIPEDE SCROLL SAW, No. 2, IMPROVED.

Price, Complete, $23; Without Boring Attachment, $20.

This machine has about the same capacity as Scroll Saw, No. 7, but this is preferred by many on account of the Velocipede Foot Power, and having a Boring Attachment to open for inside work.

The swing around the blade, under the arm, is 24 inches.
The length of the blade is 7 inches.
The table and arms are of hard maple.
The frame is of cast-iron.
The balance and drive wheels run on steel arbors.
The machine weighs 90 pounds.
Boxed, ready for shipment, it weighs 130 pounds.
We include one dozen blades with each machine.
The Boring Attachment can be furnished at any future time if not desired when ordering the machine.

One $\frac{3}{8}$ Bit is included with the Boring Attachment. Extra Bits, each, $\frac{1}{16}$, 15c; $\frac{3}{32}$, 15c; $\frac{1}{8}$, 20c; $\frac{5}{32}$, 20c; $\frac{3}{16}$, 25c; $\frac{7}{32}$, 30c; $\frac{1}{4}$, 35c.



FOOT POWER FORMER, IMPROVED.

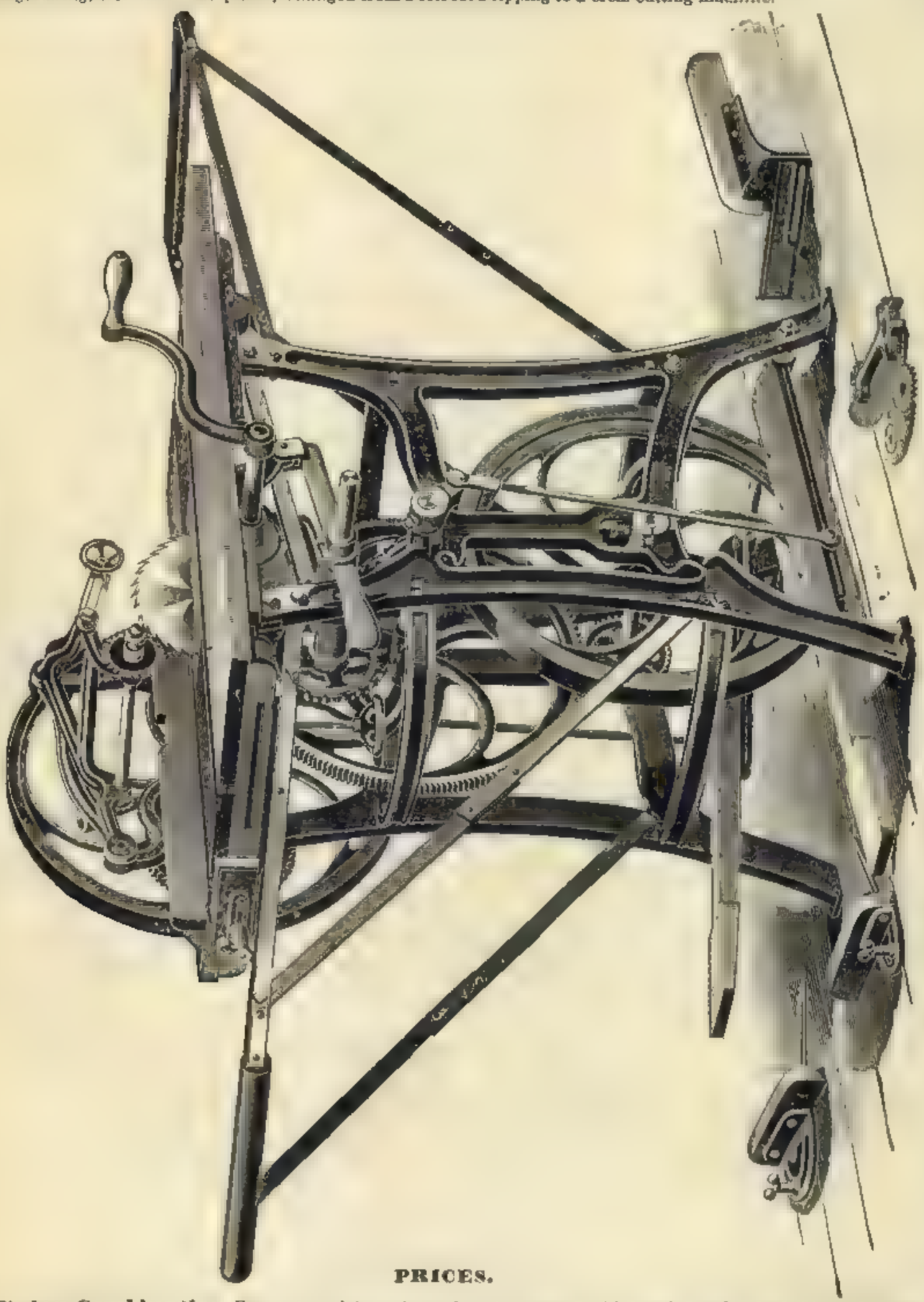
Price, $20, Without Knives.

This machine is for moulding edges of brackets, scroll work, panel work, regular and irregular mouldings of all styles up to ¾ inch. The speed of the knives is from twenty to twenty-five hundred per minute. By the aid of our Patent Velocipede Foot Power the knives are caused to rotate in either direction that the grain of the wood may require, avoiding all complicated devices for reversing motion usually employed on single spindle Formers. Articles that look very plain can be made elegant and costly in appearance by this machine. While it has not the range of work of a steam power Former costing from $125 to $200, it will do vastly more than its relative cost would indicate, and its work is of the same character as the most expensive machine. The table can be lowered to 2½ inches between it and the lower cutting edges of the knife. The price of the machine is $20 without any knives. The machine complete weighs 80 pounds. Boxed, ready for shipment, it weighs 110 pounds.

The foot power has a walking motion by which great power can be obtained with less fatigue than with any other kind. The feed has three changes of speed, adapted to the various kinds of ripping etc. Saws from 5 to 10 inch can be used on this machine. One man can easily rip soft wood up to 3½ inches, and hard wood to 2 inches thick, doing the work of four men with a common hand saw, and it is equally valuable for cross-cutting and various other kinds of work. It is a very strong, substantial and thoroughly well built machine for ripping, cross-cutting, mitering, rabbitting, grooving, gaining, dadoing, edging up, jointing, boring, etc. It can be quickly changed from a self-feed ripping to a cross-cutting machine.

THE NEW UNION COMBINATION SAW, SELF-FEED.

For Foot, Hand or Belt Power.



No. 5 "UNION" COMBINATION SAW—For Foot, Hand or Steam Power.

PRICES.

No. 5—Union Combination Saw, complete as shown in cut on page 7 with 1 each 7 and 10-inch Rip and 7-inch Cross-cut Saws, boxed for shipment $75 00

No. 6—The same as No. 5, but without the Self feed Ripping Device and Extension Rolls, with one each 7 inch Rip and Cross-cut Saws 60 00

No. 7—Same as No. 5, but without the Chain Belt Attachment and Foot Power, arranged as a Hand Power, Self-feed Rip Saw, with one 10-inch Rip Saw 60 00

Pulley for Steam Power, for either Nos. 5, 6 or 7 machine 2 00

No. 8—For Steam Power only, same as No. 5, but without the Self feed Ripping Device, Extension Rolls, Foot and Hand Power, with Pulley on Saw Arbor, and one each 7-inch Rip and Cross-cut Saws. 40 00

Union Countershaft for Steam Power 12 00

FIRE LADDERS.

Our ladders are well ironed, and are warranted to do good service. The poles are of selected Norway Pine and the rungs are of seasoned second growth hickory.

EXTENSION LADDERS.

Length, feet	26	30	35	40	45	50
Price	$18 00	21 00	24 00	27 00	35 00	38 00

SINGLE LADDERS.

Length, feet	12	14	16	18	20
Price	$5 00	5 75	6 75	8 50	10 75

COMMON SPANNERS.

Wrought-iron, plain, per dozen, $6.00; nickeled $18 00
Malleable iron, painted, per dozen 4 50

SPANNER AND WRENCH COMBINED.

We make these to order only, and do not accept orders for less than 12. They are made of malleable iron. The wrench is shaped to fit any shape of hydrant nut specified.

Price, each $1 00

DOUBLE SWING TORCH.

One Pint Brass, each $2 50
One Pint Nickel-plated, each 3 50

Engine Room Bells.

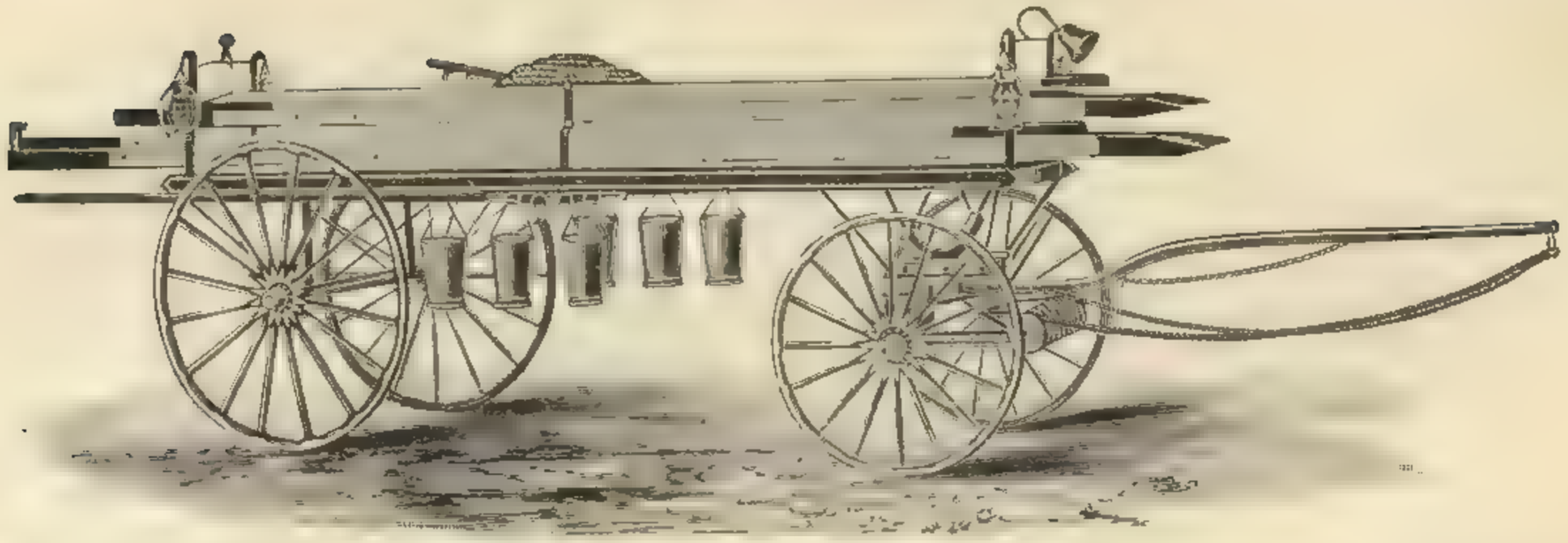
ENGINE-ROOM BELLS.

4½-inch finished	$4 00
5 -inch finished	5 00
6 -inch finished	6 00
7 -inch finished	7 75

HOSE CART TORCH.

Polished brass, with cap and chain $6 00
Nickel-plated, with cap and chain 7 00

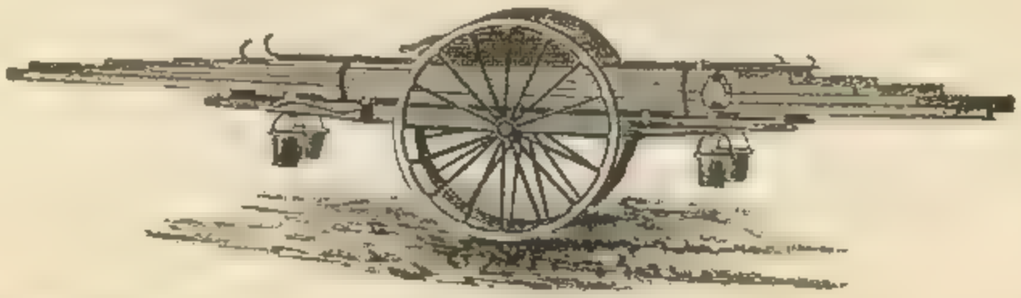
VILLAGE HOOK AND LADDER TRUCK NO. 3.



This makes a very complete, light and convenient village truck, and will be found to admirably meet all the requirements of small departments.

Equipment consists of one 20-foot ladder, and 18-foot ladder, which can be spliced, making a 36-foot extension; one 18-foot single; one 16-foot single, one 16-foot roof; one 16 foot lifting pole, four pike poles six rubber buckets 100 feet pull down rope, hook and chain; four brass hand lanterns; one bell; one 60 foot drag rope, two pickaxes; two fire axes; Sarven wheels; brass hub bands, with screw cap; supplies held in place by patent catch, the three large ladders carried separately on rubber covered rollers, balance of ladders nested; painted English vermilion and striped Height over all, 6½ feet; length over all, 25 feet, weight, 1,000 pounds Price, complete with equipments, $325.00.

VILLAGE HOOK AND LADDER TRUCK NO. 4.



Intended principally for small villages where the buildings are low It is easily handled, and its construction allows of its being used in contracted quarters.

Equipment consists of patent wheels, Concord axle; nested ladders on 16-foot frame; longest ladder 30 feet; one 20-foot; one 18-foot; one 10-foot roof; one 12-foot roof; two pickaxes: two fire axes; one crowbar; two pike poles; six fire buckets; two brass hand lanterns; 100 feet drag rope; one pull-down rope, with pole, hook and chain; brass hub bands: painted English vermilion and striped. Height over all, 5½ feet Weight, 900 pounds. Price, $175 00

N. O. NELSON MFG. CO., ST. LOUIS.

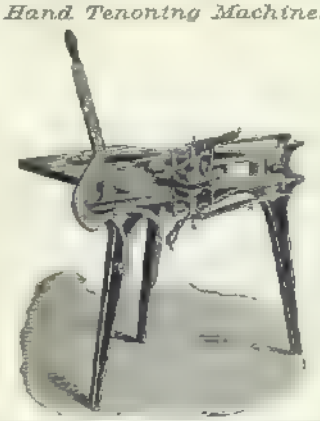
Wood Working Machinery.

Foot Power Mortiser.

DESCRIPTION.	EACH.
Foot Power Mortiser, without Chisels,	$22 00
Self-cleaning Mortising Chisels, sizes, ¼, 5/16, ⅜, 7/16, ½, 9/16, ⅝, ¾ and 1 inch,	1 00
Blind Slat Chisel, with 3 Set Bits	5 00

This machine combines all the features necessary for perfect mortising machine. It has great range of work, [illegible] and has all the required adjustments, which are easily and quickly made. It has [illegible] and [illegible] and [illegible] at weighs 350 pounds boxed ready for shipment, [illegible] pounds.

Hand Tenoning Machine.



DESCRIPTION.	EACH.
Hand Tenoning Machine complete	$25 00

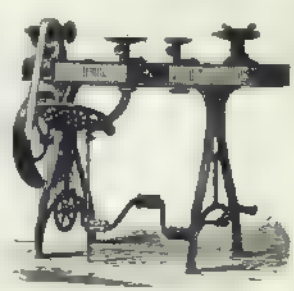
This machine will cut tenons of any length up to 3 inches. By repeating the [illegible] any desired length can be made. It will work stuff of any size up to 4½ inches wide [illegible] gauge for length of tenon, a [illegible] and cut a shoulder on [illegible] further use than the [illegible] to [illegible] stuff having a rabbeted edge, and will cut one [illegible] privilege that [illegible] of a [illegible] besides the [illegible] are cut at once [illegible] cut. By the [illegible] a shifting arrangement [illegible] a rabbet [illegible] the rapidity [illegible] set of knives as with a [illegible] covered the stock be worn. The [illegible] one side [illegible] square shoulders and can [illegible] tenons of [illegible] thickness or distance between shoulders. It weighs 400 pounds, boxed ready for shipment, it weighs 440 pounds.

Foot Power Former.

DESCRIPTION.	EACH
Foot Power Former, without Knives,	$20 00
Former Knives, Nos. 1 to 20,	1 00
Former Knives, A to M,	50
Fluting Attachment, extra,	3 00

The cut represents a machine for moulding edges of brackets, scroll work [illegible] regular and irregular moulding of all styles [illegible] inch. The speed of the knives is [illegible] five hundred per minute. The [illegible] through the [illegible] of the [illegible] caused to rotate in either direction that the grain of the wood may require. The great speed of the knives insures rapid and smooth work. The spindle and its bearings are of steel, adjustments to take up the wear. The [illegible] for the use of different knives and work are convenient, and all substantial and durable. The table can be lowered to give 2¾ inches between it and the lower cutting edge of the knife. The machine complete weighs 80 pounds; boxed ready for shipment, it weighs 130 pounds.

No. 3 Lathe.



DESCRIPTION.	EACH.
Lathe, complete with 3 Centers (one a spur), 2 Tool Rests and Sockets, and 1 Turned Face Plate	$35 00
Same, without lower portion, but with short Bench Legs	20 00

This Lathe is designed for wood turning. It will take in stuff 12 inches in diameter and 3 feet [illegible]. Has Vesicopedic Foot Power and improved seat. The speed can be varied from 150 to 750 revolutions per minute and the motion can be started, stopped or reversed instantly at the will of the operator. The [illegible] can be readily moved across to any part of the bed that the work requires. The Lathe is made entirely of [illegible] steel, except the bed, which is [illegible]. The spindle is of steel, tested in the best manner. All the bearings are of steel [illegible] of [illegible] strong, with [illegible] and light running. The centers are [illegible] steel, tested to [illegible] pressure. No wrench is required to adjust the [illegible] or [illegible] sockets, hand wheels being used instead. It weighs 230 pounds, box at ready for shipment, it weighs 320 pounds.

Rich Gold Chandeliers.

Patent Automatic *Spring Extension.*

NO.	NUMBER OF ARMS.	DESCRIPTION	EACH.
332	2	Complete, with Glass Founts, Globes, No. 2 Burners and Chimneys. Length, 16 inches. Spread, 9 inches,	$11 10
333	3	Complete, with Glass Founts, Globes, No. 2 Burners and Chimneys. Length, 16 inches. Spread, 14 inches,	14 80
334	4	Complete, with Glass Founts, Globes, No. 2 Burners and Chimneys. Length, 20 inches, Spread, 20 inches.	18 50

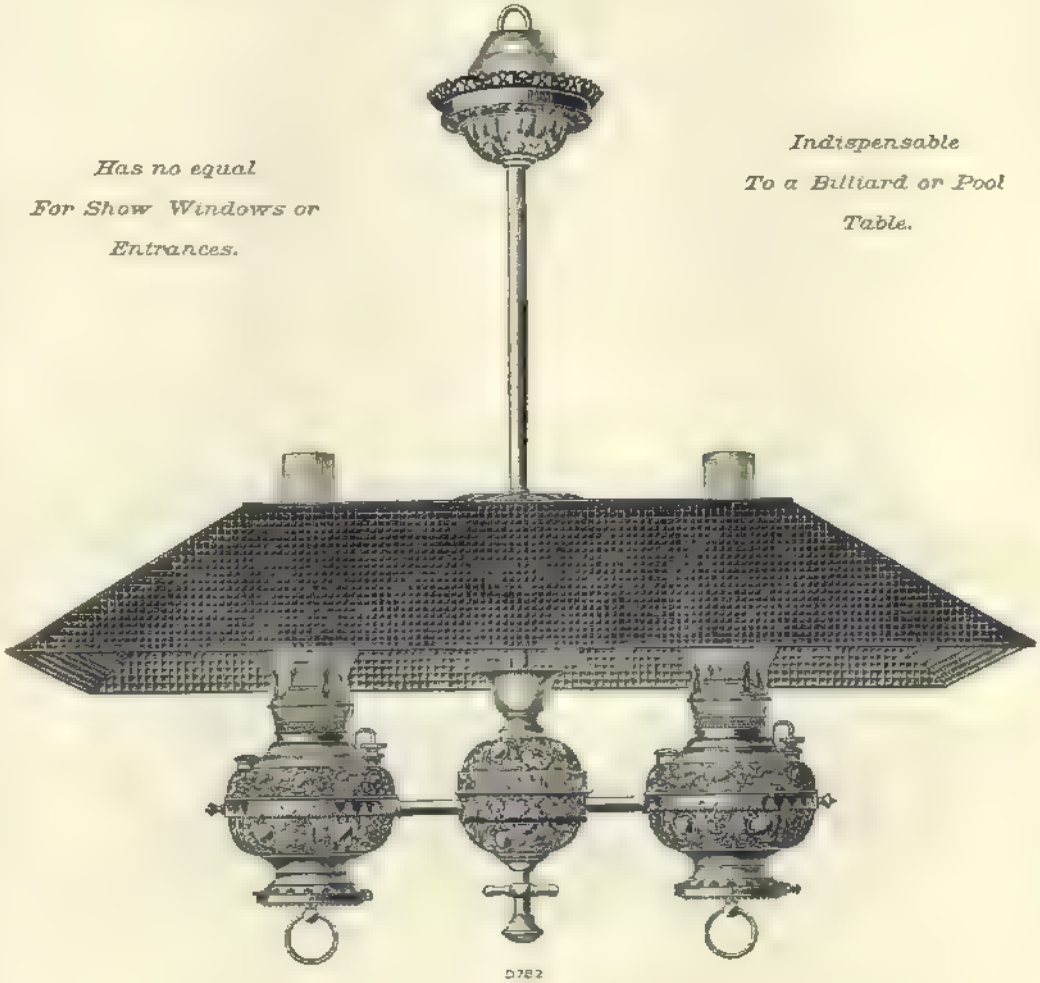
These Chandeliers are completed with 5 inch etched or engraved Globes. May be filled or lighted without removing Burner, Globe or Chimney

FOR OTHER GLOBES, SEE OUR COMPLETE LINE AT BACK OF CATALOGUE.

Billiard Chandelier, with Extension.

Has no equal
For Show Windows or
Entrances.

Indispensable
To a Billiard or Pool
Table.

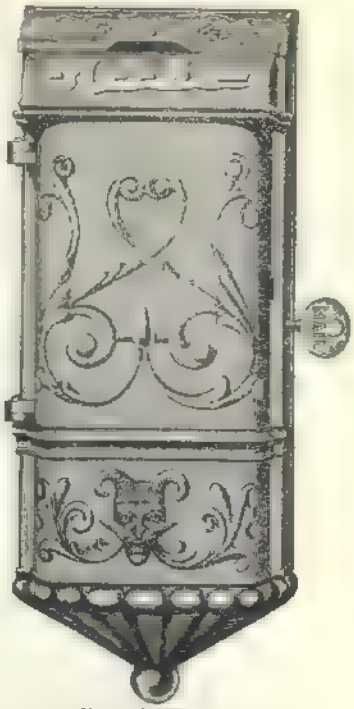


Miller Extenston Billiard Chandelier.

NO.	DESCRIPTION	EACH
D752	Complete with Embossed Miller Brass Founts, with Lift Burner Chimneys and Corrugated Green Top Tin Shade, 34x17 inches; length, 34 inches; spread, 22 inches. Polished Brass Finish.	$11 55

Can be raised or lowered at will. Made for Banquet Rooms or Window Lights, with Two Arms Only

Mail Boxes.



For Indoor and Outside Use. Nos. 10 20 and 30.

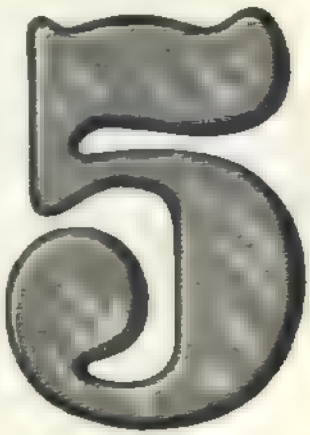
No.	DESCRIPTION.	PER DOZEN
5	Painted Green, 5½ x 13 inch,	$12 00
10	Teutonic Bronze, 5 x 13 inch, with Spring Lock and 2 Keys,	16 00
20	Antique Brass Finish, 5 x 13 inch, with Spring Lock and 2 Keys,	20 00
30	Polished Brass Plated, 5 x 13 inch, with Spring Lock and 2 Keys,	24 00

House Numbers.

Nickel

Plated and Polished

with Lugs to Drive

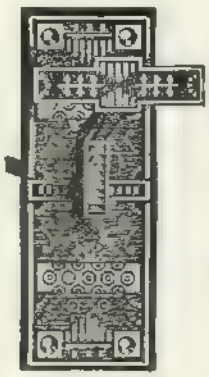


Size	2 inch Flat.	2½ inch Flat.	3 inch Flat.	3 inch Oval
Each	10 15	17	18	20

Lever Door Bells.

No 200 Lever.

No 200 Bell.



No. B164 Lever

NO	DESCRIPTION	PER DOZEN
200	1½ inch Bronzed Iron Bell and Lever,	$ 6 00
B 164	4 inch Electro Bronzed Bell and Lever,	10 00

ONE IN A BOX, COMPLETE WITH SCREWS.

Rotary Door Bells.

Turn Knob for No 20 Bell.

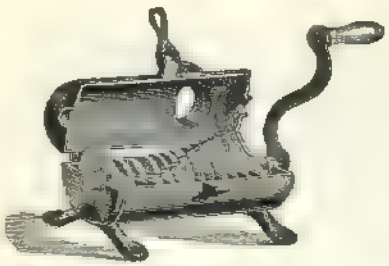
Turn Knob for No 21 Bell

NO.	DESCRIPTION	PER DOZEN
20	3½ inch Nickel Plated Bell, Ornamental Bronze Metal Turn Knob, Round Plate	$17 50
21	3½ inch Nickel Plated Bell, Ornamental Bronze Metal Turn Knob, Square Plate,	17 50

ONE IN A BOX, COMPLETE WITH SCREWS.

Meat Cutters.

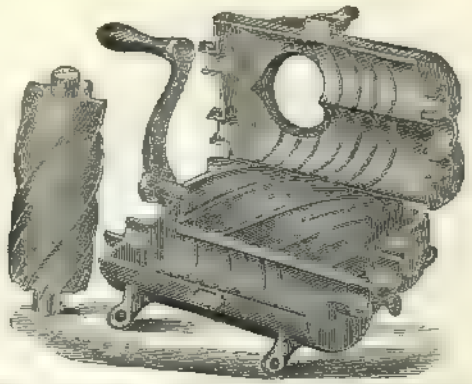
Woodruff's.



NO.	DESCRIPTION	PER DOZEN
100	7 inch Cylinder, 11 Knives,	$15 00
150	9½ inch Cylinder, 13 Knives,	18 00

HALF DOZEN IN A CASE.

Hale's



NO.	DESCRIPTION.	PER DOZEN
11	5 inch Cylinders, with Stuffer,	$27 00
12	6 inch Cylinders, with Stuffer,	36 00
13	7½ inch Cylinders with Stuffer	45 00

NOS. 11 AND 12, HALF DOZEN. NO. 13 ONE THIRD DOZEN IN A CASE.

Sausage Stuffers.

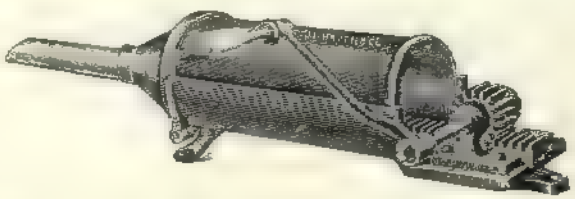
Perry's

Nos. 1 and 0

NO.	DESCRIPTION	PER DOZEN
1	Perry's Stuffer, Diameter of Cylinder 3¼ inch,	$15 00
0	Perry's Stuffer, Diameter of Cylinder 4¼ inch,	21 00

HALF DOZEN IN A CASE.

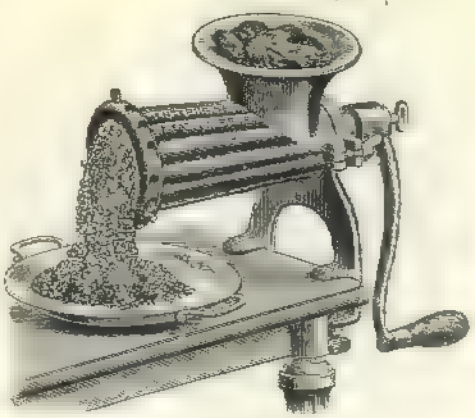
Haven's.



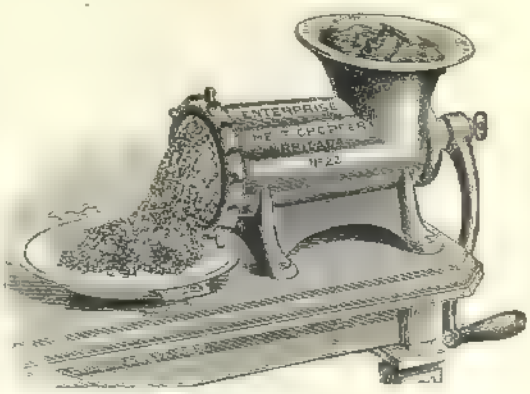
NO.	DESCRIPTION.	PER DOZEN
5	Haven's Railroad Stuffer, Family Size	$15 00

HALF DOZEN IN A CASE.

Enterprise Meat Choppers.



No. 10



No. 22

Tinned Iron, Finely Finished

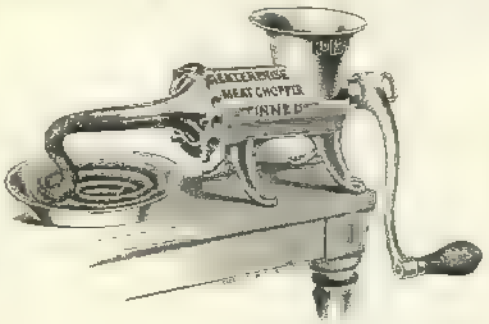
NO.	DESCRIPTION.	EACH
5	Length of Case 4½ inch. Diameter of Plate 2½ inch, with Clamp and Cut 1 lb Meat per Minute,	$ 2 00
10	Length of Case 6½ inch, Diameter of Plate 2½ inch, with Clamp and Cut 2 lb Meat per Minute,	3 00
12	Length of Case 6½ inch. Diameter of Plate 2½ inch, to Screw, with Cut 2 lb Meat per Minute,	2 50
22	Length of Case 8 inch. Diameter of Plate 3½ inch to Screw, with Cut 3½ Meat per Minute,	4 00
32	Length of Case 9½ inch. Diameter of Plate 4 inch to Screw, with Cut 4 lb Meat per Minute,	6 00
42	Length of Case 12½ inch Diameter of Plate 5 inch, to Screw, with Cut 5 lb Meat per Minute,	15 00

Nos. 5 TO 32 SIX. No. 42 THREE IN A CASE.

Extra Parts for Enterprise Meat Choppers.

No.	5	10	12	22	32	42
Extra Knives, Each,	$0 25	30	30	50	75	1 00
Extra Plates Each,	30	50	50	75	1 00	3 00

Stuffing Attachments.



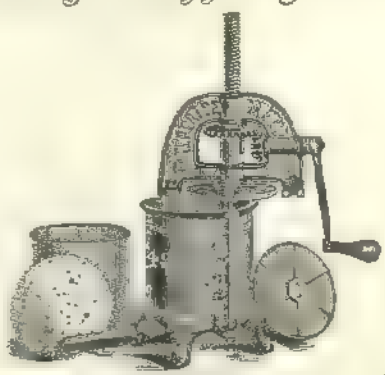
For Enterprise Meat Choppers.

Made of Spun Brass Nickel Plated and Very Strong

No.	5	10	12	22
Per Dozen,	$3 75	4 50	4 50	6 00

By means of these Attachments, a Meat Chopper may be converted into an excellent Sausage Stuffer. When in use the Plate and Knife are taken out and the Attachment secured by screwing the ring over it.

Sausage Stuffer & Press.



NO.	DESCRIPTION	EACH
15	Enterprise 2 Quart, Japanned,	$4 00
25	Enterprise, 4 Quart Japanned,	5 00
35	Enterprise 8 Quart, Japanned,	6 50

Adapted for use as Sausage Stuffer Fruit and Lard Press. There are two Plunger Plates for pressing, and Perforated Cylinder for use in pressing lard or Fruit.

Nos. 15 AND 25 SIX. No. 35 THREE IN A CASE.

Toys.

"Safe Deposit" Banks.

NO.	DESCRIPTION.	PER DOZEN.
11	"Safe Deposit," Cast Iron, Red and Gilt Silver Plated Combination Lock, Burglar Proof Attachment, Height 5½ inches, Width 4½ inches, - - -	$10 00

ONE IN A PAPER BOX, THREE DOZEN IN A CASE.

Japanned Toy Banks.

Home. Nos. 1 and 2

Gothic. Nos. 3 and 4

No.	1	2	3	4
Per Dozen,	$1 15	1 85	95	1 40

ONE DOZEN IN A PACKAGE.

Rattles and Whistles.

NO.	DESCRIPTION.	PER DOZEN.
1	Plain, - - - - - - -	$0 50

ONE DOZEN IN A PACKAGE.

Japanned Toy Cups.

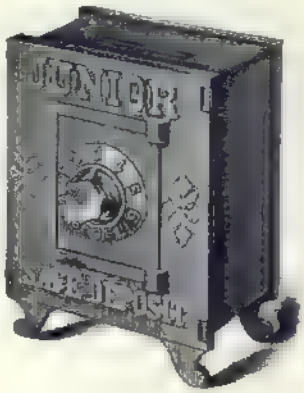
Straight. Nos. 2 and 3.

Flaring. Nos. 4 and 5.

No.	2	3	4	5
Inches,	2½	2¾	3	3¼
Per Dozen.	$0 65	80	85	1 05

ONE DOZEN IN A PACKAGE.

Junior Banks.



NO.	DESCRIPTION.	PER DOZEN.
12	"Junior Safe," Cast Iron, Japanned and Bronzed, Combination Lock Pat Money Guard, Height 4½ in., Width 3¾ in.,	$4 50
112	Same as No 12, Full Nicke. Plated,	6 00

HALF DOZEN IN A BOX.

Sherwood's Toy Casters.

NO.	DESCRIPTION	PER DOZEN
5	Wire, Three Bottles, - - -	$3 00
4	Wire, Four Bottles, - - -	3 50

ONE IN A BOX.

Japanned Toy Pails.

Covered

No.	20	30	Nests of 4
Inches,	2½	2¾	
Per Dozen,	$1 05	1 15	9 00

ONE DOZEN OF ONE NEST IN A PACKAGE.

Hand Bells.

Polished Brass Hand Bells.

Enameled Handles

Nos.	0	1	2	3	4	5
Diam. of Mouth,	2½	2¾	2¾	3¼	3¾	4 in.
Per Dozen,	$3 00	3 63	3 50	4 50	6 50	8 50

Nos.	6	7	8	9	10	12
Diam. of Mouth,	4½	5	5½	6	6½	6½ in.
Per Dozen	$11 25	13 75	15 50	24 00	30 00	36 00

	PER DOZEN
Auction Bells, Polished Brass, Diameter 6½ inches,	$30 00
Milkman's " " " 5½ "	56 00

NOS. 0, 1 AND 2, HALF DOZEN. NOS. 3, 4, 5 AND 6, ONE-THIRD DOZEN LARGER, ONE ONLY IN A PACKAGE.

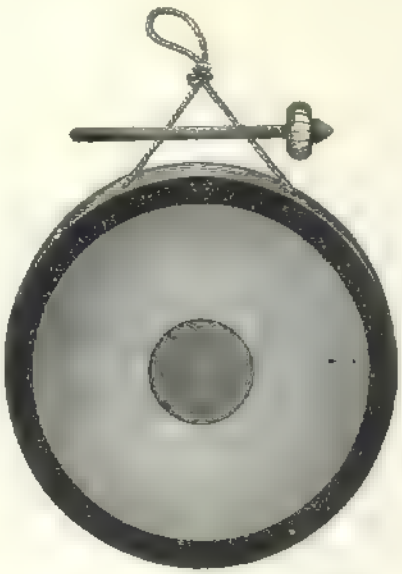
Swiss Hand Bells

Pure White Metal, Fine Polished, Enameled Handles

Nos.	2	4	6	8	10
Diam. of Mouth,	2½	3¼	3¾	4½	5½ in.
Per Dozen,	$3 00	7 00	13 50	22 50	38 25

NOS. 2, 4 AND 6, HALF DOZEN, NOS. 8 AND 10, ONE ONLY IN A PACKAGE.

Chinese Gongs.



Diameter,	15	18	21 in.
Each	$7 00	9 50	13 85

Tea Bells.

White Metal, Polished.

No.	1	2
Diameter of Mouth,	2¼	2¾
Per Dozen,	$2 00	2 50

HALF DOZEN IN A BOX

Call Bells.

No.

No. 7.

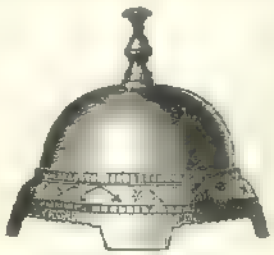
No.

No. 28.

No.	DESCRIPTION	PER DOZEN
	inch Nickel Plated Bell, Iron Base, Height 2½ inch,	
	inch Nickel Plated Bell, Bronzed Iron Base, Height 2½ inch.	
	inch Nickel Plated Bell, Gilt Base, Height 2¾ inch	
	inch Oxidized Bell, Gilt Base, Height 3 inch,	

NOS. 1 AND 7, ONE DOZEN NOS. 12 AND 28, ONE IN A BOX.

No.



No.

No.

No.	DESCRIPTION	PER DOZEN
	inch Silver Plated Bell, Bronzed Iron Base, Height 3 inch,	$
	inch Silver Plated Bell, Bronzed Iron Base, Height 3½ inch	
	inch Silver Plated Bell, Silver Plated Base, Height 3½ inch,	

ONE IN A BOX.

No.

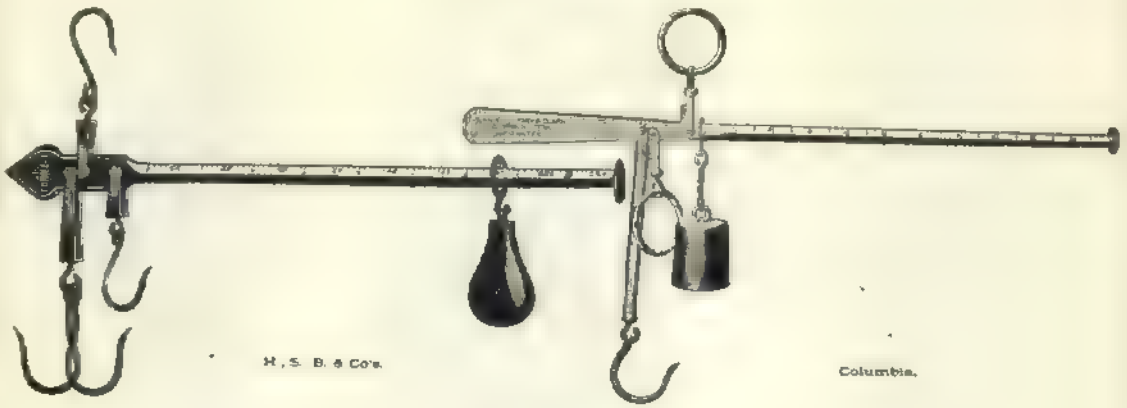
No.

No.	DESCRIPTION	
	Nickel Plated Bell, Gilt Base, Height 3¾ inch	$30 00
	Nickel Plated Silver Alloy Bell, Electro Bronze Plated Ornaments	30 00

Each in a Box with Book of Instructions, packed in a Wood Case, or with Button as pressed on Card for mounting.

ONE IN A BOX.

Steelyards.



Columbia.

Solid Forged, Full Polished, Highest Quality

Capacity, Pounds,	35	50
Per Dozen,	$20 00	22 50

ONE IN A PAPER BOX.

H., S., B. & Co's.

Red Ends. Extra Quality. Sealed

Capacity, Pounds,	50	100	150	200	250	300
Per Dozen,	$9 00	10 80	12 00	13 00	15 00	21 00

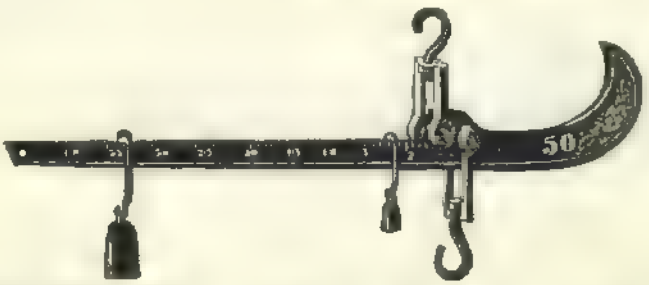
HALF DOZEN IN A CASE.

American.

Capacity, Pounds,	50	100
Per Dozen,	$5 50	7 00

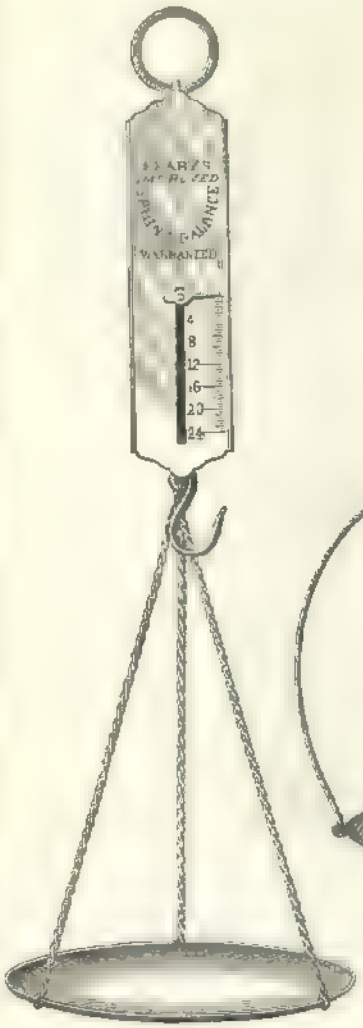
HALF DOZEN IN A PACKAGE.

Scale Beams, or Patent Balances.

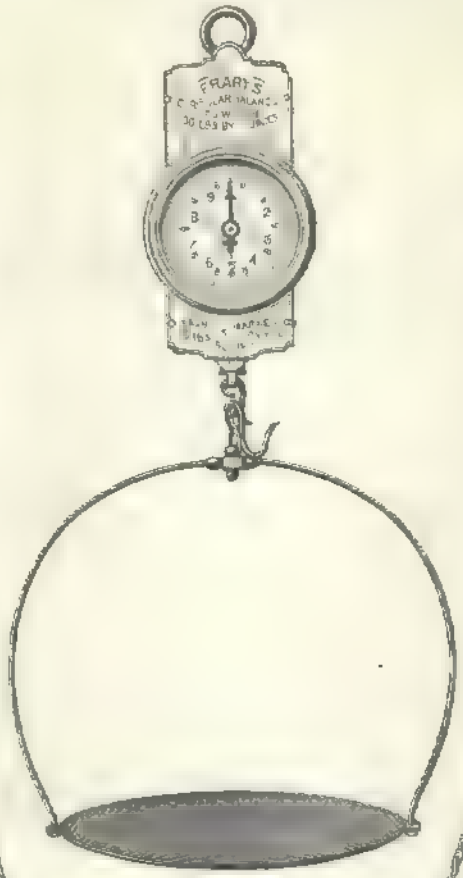


Capacity, Pounds,	150	200	250	300	400	500	600
Each,	$1 00	1 10	1 50	2 10	2 90	3 50	4 00

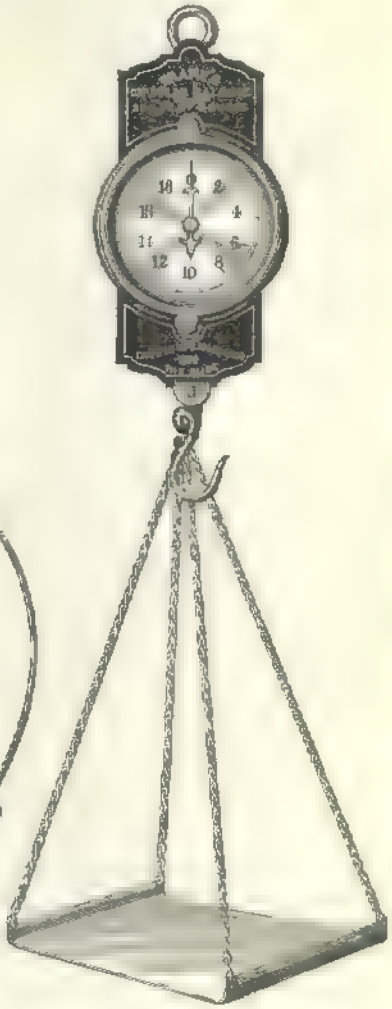
Spring Balances.



Nos. 21 and 41.



No. 0275.

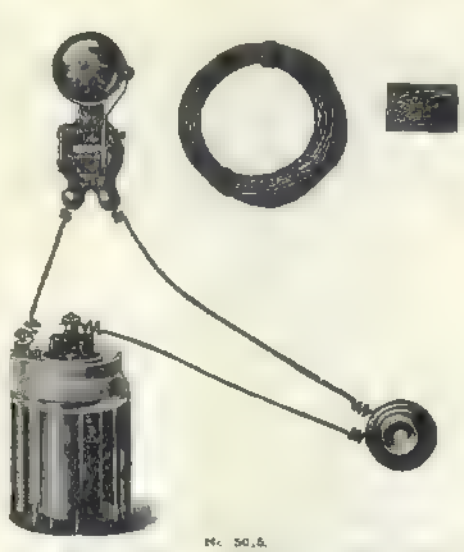


Nos. 252 and 272.

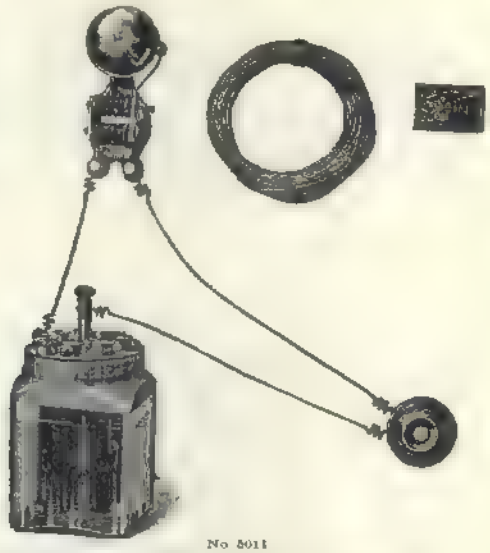
No.	DESCRIPTION.	PER DOZEN.
21	Light Straight Balance, 24 lbs. × ½ lb., Round Tin Dish, Brass Face, with Hook,	$ 4 00
41	Heavy Straight Balance, 24 lbs. × ½ lb., with Hook and Round Tin Dish, Brass Face,	7 00
252	Butchers' Circular Balance, 24 lbs. × 4 oz., with Hook and Square Tin Dish, Brass Front,	75 00
272	Butchers' Circular Balance, 60 lbs. × 8 oz., with Hook and Square Tin Dish, Brass Front,	90 00
0275	Butchers' Circular Balance, 60 lbs. × 8 oz., Brass Bowl with Swivel, Round Tin Dish, Enameled Iron Glass Dial,	120 00

NOS. 21 AND 41, HALF DOZEN, BALANCE USE IN A BOX.

Electric Bell Outfits.

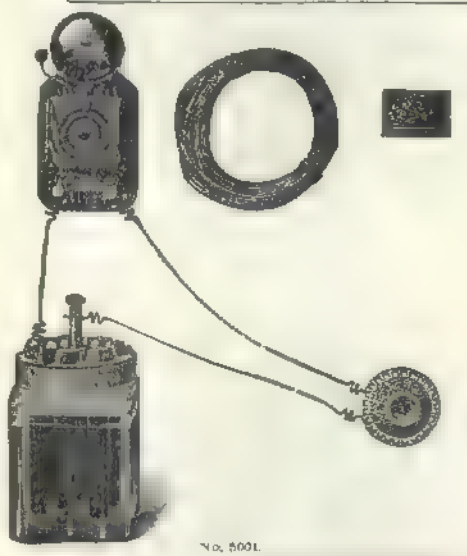


No. 5015.

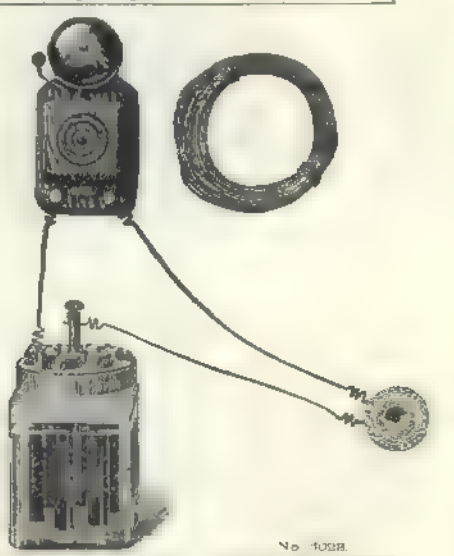


No. 5011

No.	DESCRIPTION.	PER SET
5015	1 No. 679 Diamond Battery, 1 No. 620 2½ inch Iron Frame Bell, 1 No. 572 Brass Push, 75 feet Insulated Wire, Screws, Tape, Staples,	$4 25
5011	1 No. 671 Diamond Carbon Battery, 1 No. 620 3 inch Iron Frame Bell, 1 No. [illegible] Black Walnut Push, 100 feet Insulated Wire, Screws, Tape, Staples,	4 50



No. 5001.

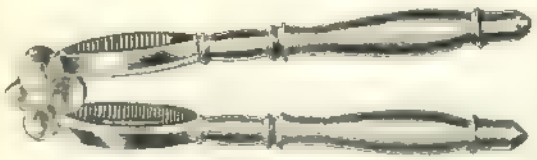


No. 5023B.

No.	DESCRIPTION.	PER SET
5001	1 No. 671 Diamond Carbon Battery, 1 No. 510 3 inch Black Walnut Box Bell, 1 No. 510B Bronze, No. 3 Finish Push, 40 ft. Insulated Wire, Screws, Tape, &c.	$5 80
5002	Same as No. 5001, with Dining Room Floor Push No. 660, in place of No. 510B,	5 00
5023	1 No. 671 Diamond Carbon Battery, 1 No. 610 2½ inch Black Walnut Box Bell, 1 No. 540B Bronze Push, 100 feet Insulated Wire, Screws, Tape, Staples,	4 30

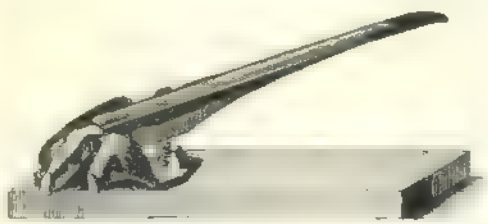
Packed complete in a neat wood box with full instructions for setting up, so that any intelligent person can put them in. These outfits are very desirable for the Hardware Trade to carry in stock, as they are coming into general use, and are sold at the same time as the hardware for the house

Nut Cracks.



NO.	DESCRIPTION	PER DOZEN
[illegible]	[illegible] Large Size	[illegible]

ONE DOZEN IN A CASE.



NO.	DESCRIPTION.	PER DOZEN.
12	Japanned, with Wood Bottom, - -	$5 00

ONE DOZEN IN A CASE.

Tobacco Cutters.

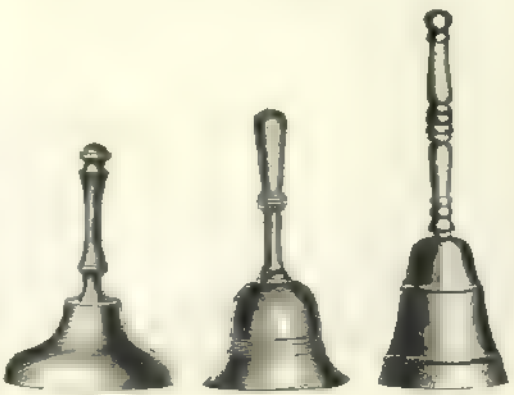
DESCRIPTION	PER DOZEN.
Enterprise Mfg. Co.'s, - - - - - -	$21 00

Call Bells.

NO.	DESCRIPTION	PER DOZEN
[illegible]	[illegible] Silver Plated Bell, Bronzed Iron Base, Height 4½ inches, -	$10 50
[illegible]	[illegible] Silver Plated Bell, Black Base, Height 5 inches, - - -	10 00

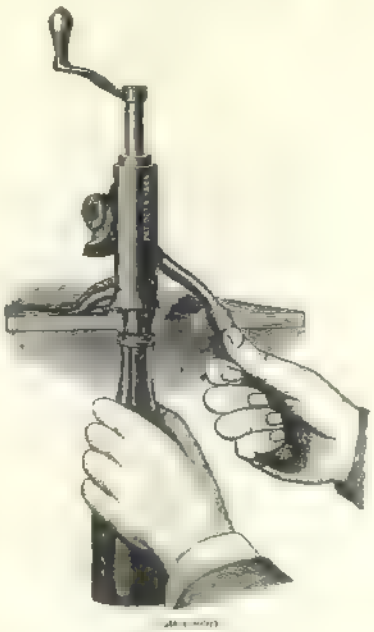
ONE DOZEN IN A CASE.

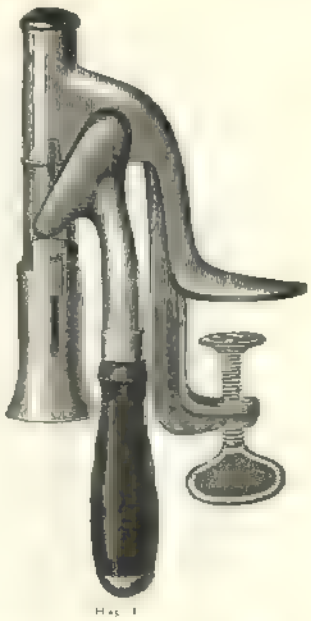
Tea Bells.



NO.	DESCRIPTION.	PER DOZEN.
790	Silver Plated, Height 3½ inches, -	$7 50
71	[illegible]	7 50
[illegible]	[illegible]	[illegible]

Cork Extractors.





NO.	DESCRIPTION.	PRICE.
128	Samson, Nickel Plated, Walnut Handles, to Screw on Bar,	
	Extra Corkscrews, for Same,	
	Clamps to fasten Extractor to Bar, 3 inch Opening,	
28	Rapid, Nickel Plated, Enameled Handles. Screw Clamp. Pressing Down Lever operates the Screw and Lifting extracts the Cork,	.09
	Extra Corkscrews, for Same,	.50

ONE IN A WOOD BOX.

Champagne Nippers.

DESCRIPTION.	PER DOZEN.
Nickel Plated,	$13 50

ONE DOZEN IN A BOX.

Champagne Taps.

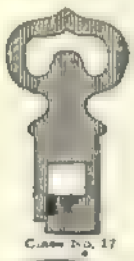
NO.	DESCRIPTION.	PER DOZEN.
2109	Nickel Plated	$

HALF DOZEN IN A BOX.

Steel Rim Key Blanks.

Class No. 1

Class No. 2


Class No. 17

Class No. 3

Class No. 4

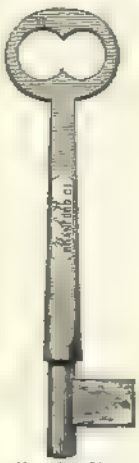
Class No. 5

Class No. 6

Class No. 11

Class No. 9

Class No. 13.


Class No. 18.

Class No. 24.

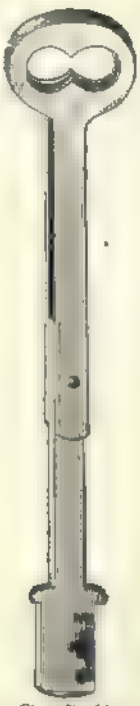
For Prices see, opposite page.

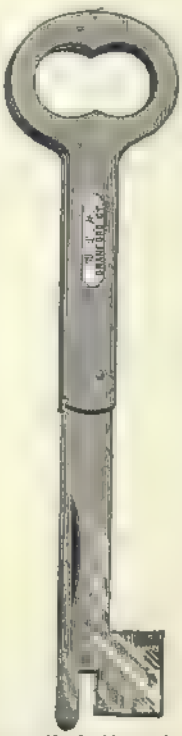
Class No. 20.

Class No. 21.

Class No. 22.

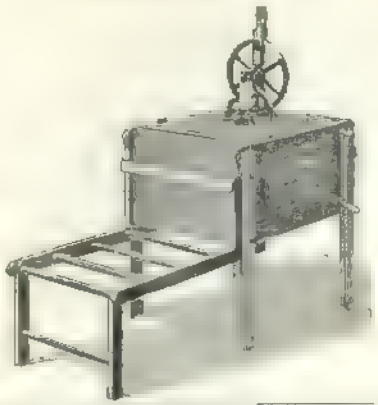
Class No. 23.


Class No 14½.

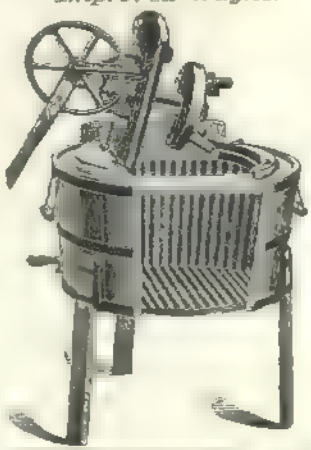

Classes No. 14 15 and 15½

Washing Machines.

Improved Western.



Improved Wayne.



NO.	DESCRIPTION	PER DOZEN
2	Improved Square Western Washers, Family Size,	$5 00
3	Improved Square Western Washers, Large Size,	6 00
	Improved Round Wayne Washers,	4 00

Clothes Pins.

DESCRIPTION	PER DOZEN	PER GROSS
Common,	$0 60	
Hoyt's Patent,		$0 70

COMMON, FIVE HUNDRED, HOYT'S, FIVE GROSS IN A BOX.

Wash Boards.

Globe.

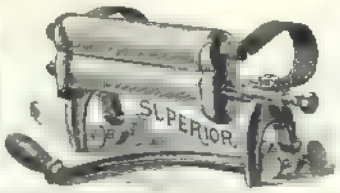
Banner.

H. S. B. & Co.'s

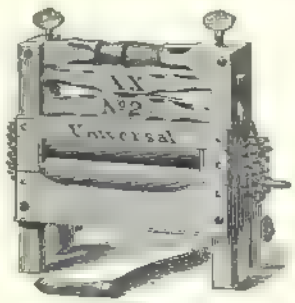
DESCRIPTION	PER DOZEN.
Common, Single, Plain,	$2 75
Nowelty, Single Fancy,	3 50
Globe, Single Fancy with Protector,	4 00
H. S. B. & Co.'s, Single, Plain and Fancy Sides,	7 00
Our Flag, Double, Plain and Fancy Sides,	4 50
Banner, made of One Piece of Heavy Zinc, Both Sides exposed for use,	5 50

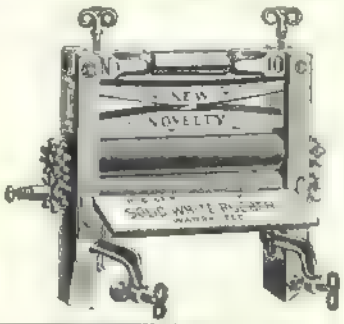
HALF DOZEN IN A BUNDLE.

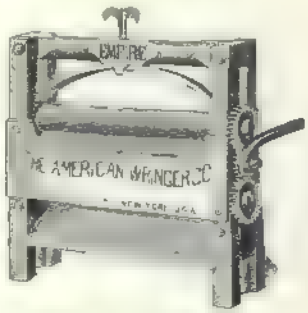
Clothes Wringers.



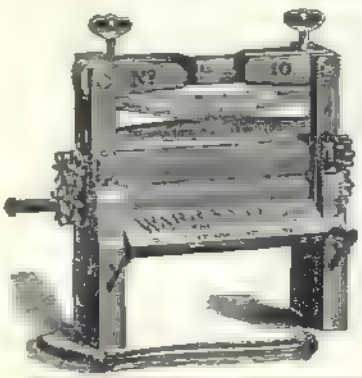
NO.	DESCRIPTION.	PER DOZEN
1	New Buckeye, Eureka Pattern, Folding Wood Apron, Rolls 10×1¾ inches,	$31 00
2	Superior, Small Family Size, Rolls 10×1¾ inches,	32 00
3	Superior Medium Family Size, Rolls 11×1¾ inches,	48 00
4	Superior, Hotel Size Rolls 12×1¾ inches,	56 00
42	Good Idea, Rolls 10×1¾ inches, Anti Friction Roller Bearings,	48 00
	[illegible] Wringer	1 [illegible]
	[illegible] Extra Rolls for Wringers,	4 00







NO.	DESCRIPTION	PER DOZEN
	[illegible] Size, Rolls [illegible] inches	[illegible]
1	New Novelty Family Size, Rolls 10×1¾ inches	40 00
1	New Novelty Family Size, Rolls 11×1¾ inches	50 00
2	New Novelty Hotel Size, Rolls 12×1¾ inches,	56 00
3	Empire [illegible] Rolls 10×1¾ inches,	48 00
	[illegible] Extra Rolls for Novelty Wringers,	1 00



NO.	DESCRIPTION	PER DOZEN
3	Western Family Size, Rolls 10×1¾ inches	$ 00
110	Happy Thought Family Size, Rolls 10×1¾ inches, Anti Friction Roller Bearings	00

Miners' Lamps.

Hinged Top.

No.	DESCRIPTION.	PER DOZEN.
0	Hinge Top, Miners',	$1 [illegible]
5	Brass Screw Top, Miners',	1[illegible]
1	Scranton, Hinge Top, Single Hook, Small Spout,	1[illegible]
2	Scranton, Hinge Top, Single Hook, Medium Spout,	16 75
3	Scranton, Hinge Top, Single Hook, Large Spout,	17 [illegible]
11	Scranton, Hinge Top, Double Hook, Small Spout,	1[illegible]
12	Scranton, Hinge Top, Double Hook, Medium Spout,	17 50
13	Scranton, Hinge Top, Double Hook, Large Spout,	[illegible] 25

[illegible] AND 3 [illegible] DOZEN, BALANCE TWO DOZEN IN A BOX.

Frostburg.

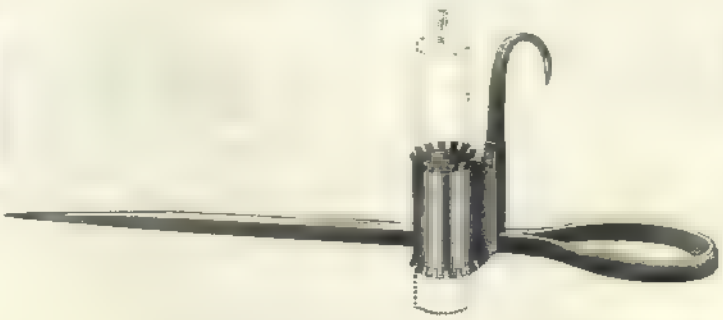
[illegible]

No.	DESCRIPTION.	PER DOZEN.
[illegible]	Frostburg, Miners',	$18 50
10	Frostburg, Driv[illegible],	24 00
17	Monong[illegible]ela Mi[illegible],	1[illegible] 50
27	Monongahela, [illegible]'	[illegible]5 00

ONE DOZEN IN A BOX.

Miners' Candlesticks.

Lake Superior Pattern.



California Pattern.

Fine Steel, Hand Forged, Adjustable.

No.	DESCRIPTION.	PER DOZEN.
12	Lake Superior Pattern, with Hook for Hat,	$7 50
13	California Pattern, with Hook for Boards or Rocks,	7 50

ONE DOZEN IN A BOX.

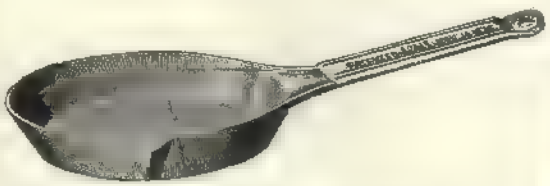
Fry Pans.

Polished.

No.	0	1	2	3
Diameter Top,	8	8½	9	9½ in.
Diameter Bottom,	6	6½	7	7½ in.
Per Dozen,	$3 00	3 75	4 25	4 75
No	4	5	6	7
Diameter Top,	10	11½	12	13 in.
Diameter Bottom,	8	9	10	10½ in.
Per Dozen,	$5 25	6 00	7 00	8 00

HALF DOZEN IN A BUNDLE.

Acme.



Polished Steel, Tin Covered Cold Handle.

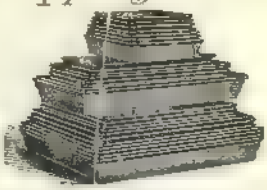
No	0	1	2	3
Diameter Top,	8	8½	9	9½ in
Per Dozen,	$3 00	3 75	4 25	4 75
No.	4	5	6	7
Diameter Top,	10	11	12	13 in.
Per Dozen,	5 25	6 00	7 00	8 00

QUARTER DOZEN IN A BUNDLE.

Miners' Gold Pans.

DESCRIPTION.	PER DOZEN.
Polished, Size 16½ × 2½ inch,	$3 00

Dripping Pans.



Sizes and Average Weight Per Dozen

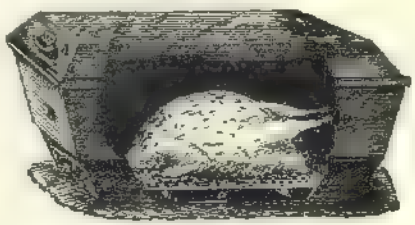
Inches,	6×9	7×8	7½×9	8×10	6½×13	7×14	
Weight,	9½	9½	10	11½	14	15	lbs.
Per Pound	$0 11						

Inches	8½×12	9×12	10×12	9×14	8×17	12×12	10×15	
Weight	14½	15	15½	17	18	19½	18	lbs.
Per Pound	$0 10							

Inches,	13×13	10×19	11×16	13×17	12×18	14×15	13×17	
Weight,	22	23½	21	24	23½	23	23½	lbs.
Per Pound	$0 10							

Economic Roasters.

Self-Basting



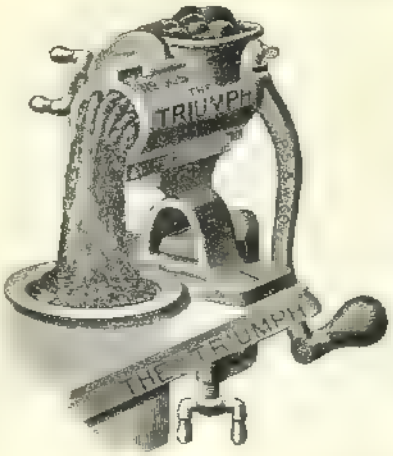
No	1	2	3
Size of Dripping Pans,	9×14 10×15	10×15 11×16	10×17 11×18
Each,	$1 00	1 15	1 30

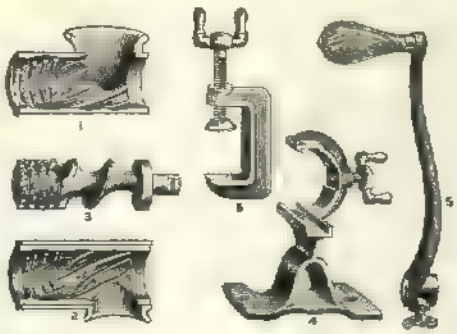
Cooks quickly and evenly takes little fuel, makes the Roast juicy, tender and delicious, requires no Basting and hence no attention while cooking is used for Beef, Mutton, Turkey Chicken, Ham, Pork and Beans, Sweet Potatoes, etc.; is unsurpassed as a Steamer; has two Drip Pans for use.

Coffee Roasters.

DESCRIPTION.	EACH.
10 inch Polished Spider, with Roaster Attachment,	$2 00

Triumph Meat Cutters.





The above Cut shows the Simplicity and Ease with which the Cutters can be taken Apart for Cleaning, etc.

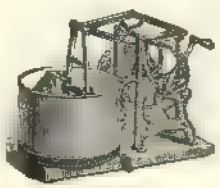
Tinned Iron.

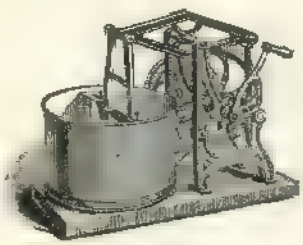
NO.	DESCRIPTION	PER DOZEN.
505	Length of Case, 4⅝ inches, Diameter of Cutter, 1⅝ inches, with Clamp, Weight Complete, 8¼ lbs. Will cut 2 lbs. Meat per Minute,	$21 00

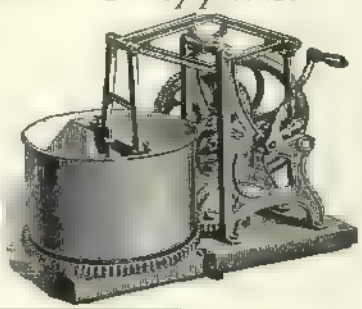
The capacity of this machine is so great but one size is made or necessary for the largest family. There is no breaking of knives, no dull cutters, as they are self-sharpening and become keen by use. It will cut MEATS and VEGETABLES easily and well. It is securely fastened to the table either by screws or the clamp, or by both.

ONE HALF DOZEN IN A CASE.

American Meat and Vegetable Choppers.







NO.	DESCRIPTION.	EACH.
1	8 inch Cylinder. Cuts 3 pounds in 3 Minutes, Small Family Size, Weight, 14 lbs.,	$5 00
2	10 inch Cylinder, Cuts from 5 to 6 pounds in 3 Minutes, Large Family Size, Weight, 21 lbs.,	7 00
3	12 inch Cylinder, Cuts from 8 to 10 pounds in from 3 to 4 Minutes, Weight 37 lbs.,	10 00

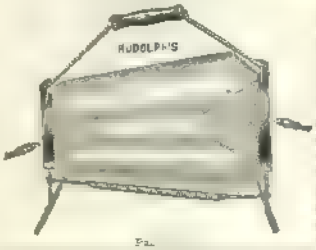
American Butchers' Meat Choppers.

NO.	DESCRIPTION.	EACH.
4	12 inch Block and Cylinder, Cuts from 50 to 60 pounds an Hour, Weight, 100 lbs.,	$25 00

Rudolph's Fishing Specialties.

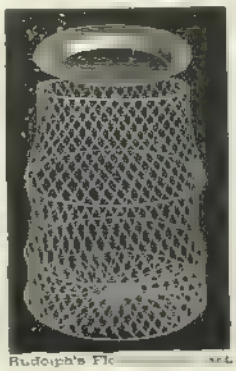
Rudolph's Floating Minnow Buckets.

Rudolph's Minnow Traps



DESCRIPTION	
Rudolph's Minnow Traps	

Rudolph's Floating Minnow Pockets.



Rudolph's Minnow and Trout Bait.

DESCRIPTION	PER DOZ
Rudolph's Minnow and Trout Bait, in 8 oz. boxes,	$2 00

Put up in one pound boxes for baiting traps and fishing waters.

Rudolph's Patent Floating Fish Decoys.

DESCRIPTION	PRICE
Rudolph's Patent Floating Fish Decoys	$5 00

Rudolph's Popular Weather Proof Oil.

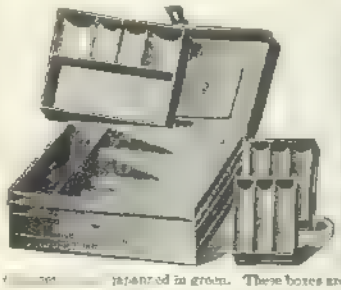
Rudolph's Popular Soft Metal Polish.

Rudolph's Popular Soft Metal Polish, per dozen,	$2 00

Rudolph's Popular Mosquito Paste.

Fishing Sundries.

Rudolph's Ventilated Tackle Boxes.



Each tray is made of perforated tin, corrugated, with double bottoms to [illegible] The concaved bottoms to divisions enable [illegible] dly shuns are carefully attached [illegible] japanned in green. These boxes are made in two sizes.

NO.	DESCRIPTION.	EACH.
1	Medium, 7x [illegible]	[illegible]
	Large, [illegible]	7 [illegible]

Rudolph's Pocket Tackle Boxes.

[illegible] or gut leaders, two circular trays and rolls of books, swivels, fl[illegible] and reels. [illegible] Box [illegible]

NO.	DESCRIPTION	EACH
5	Pocket Tackle Boxes, [illegible]	$0 50

Bait Boxes.

NO.	DESCRIPTION	PRICE
[illegible]	Oval Pattern, [illegible]	$2 25
[illegible]	Padlock Pattern, [illegible]	2 25
[illegible]	Ketchum Pattern, [illegible]	2 25
[illegible]	Crescent Pattern, [illegible]	3 00
[illegible]	[illegible]	[illegible]

Harvard Ice Top Minnow Pails.

[illegible] ally japanned, well proportioned [illegible] shape, fill the waste of the H[illegible] [illegible] [illegible] ened Pail. It [illegible] [illegible] lump of ice on top to keep the water cool [illegible] minnows fresh.

DESCRIPTION	[illegible]
[illegible] Quart, [illegible]	[illegible]
8 Quart, [illegible]	$1 75
[illegible]	[illegible]

[illegible] Fish Scaler.

[illegible] The [illegible] he hook drops into the po[illegible] [illegible] held tackle [illegible] [illegible] [illegible] loose. Lift hook and [illegible] find been very hand[illegible]

DESCRIPTION	[illegible]
Rudolph's [illegible] Extractor Nickeled [illegible]	[illegible]

Rudolph's Adjustable Batt Boxes.

[illegible] [illegible] most sensible Bait Box on [illegible] It is round, [illegible] y and out of [illegible] [illegible] [illegible] [illegible] remove the bait instantly [illegible] one hand avoiding the [illegible] down [illegible]

DESCRIPTION	[illegible]
[illegible] Patent Adjustable Bait Box [illegible]	[illegible]

[illegible] Perfumed Shoo-Fly Cream.

[illegible] insects, this preparation is a decided [illegible] over all others. It [illegible] for animal life, leaves no stain, is clean, easily applied, washes off readily without the use of soap, leaves the skin soft, smooth and free from irritation, so [illegible] relieves inflammation and pain from sunburn and [illegible]

DESCRIPTION	[illegible]
Pflueger's Perfumed Shoo Fly [illegible]	$0 [illegible]

Spalding's Trade Mark Base Balls.

Double Seam Ball.

NO.	DESCRIPTION.	PER DOZEN.
0	This Ball is made with the same material and of the same size and weight as our League Ball, but the double stitch is used throughout, rendering it doubly secure against ripping. Every Ball is wrapped in tissue paper, packed in separate box and sealed and warranted to last a full game.	$18 00

Boys' League Ball.

NO.	DESCRIPTION	PER DOZEN.
1B	[illegible]	[illegible]

Professional Ball (White).

NO.	DESCRIPTION	PER DOZEN.
2	All materials carefully selected and made up on the best pattern, making a first-class regulation Ball. Each Ball put up in separate box and sealed.	$12 00

Amateur Ball (White).

NO.	DESCRIPTION	PER DOZEN.
[illegible]	[illegible]	$9 00

King of the Diamond (White).

NO.	DESCRIPTION	PER DOZEN.
3	This Ball is regulation size and weight, made of good material, the best made for the money. Each Ball put up in a separate box and sealed.	$6 00

League Junior Ball (White).

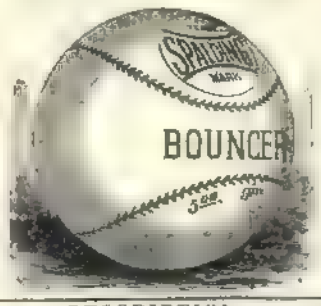
NO.	DESCRIPTION	PER DOZEN.
3B	This Ball is slightly under the regulation size, has a horsehide cover and rubber center, making it a very lively Ball. It is carefully made and a perfect boys' size Ball. Put up in a separate box and sealed.	$3 00

Boys' Favorite (White).

NO.	DESCRIPTION	PER DOZEN.
7	This Ball is regulation size and weight, horsehide cover and well constructed. An excellent regulation Ball for boys. Put up in a separate box and sealed.	$3 00

Spalding's Trade Mark Base Balls.

Bouncer Ball (White).



NO.	DESCRIPTION	PER DOZEN
11	The inside of this Ball is composed largely of rubber and will bounce three times as high as any other Ball made. Put up in separate box and sealed	$3 00

Victor Ball

NO.	DESCRIPTION.	PER DOZEN
6	The Victor Ball is the very best 20c Ball ever put on the market. It is of regulation size and weight, and each Ball is put up in a separate box and sealed	$2 40

Boys' Amateur Ball (White).

NO.	DESCRIPTION	PER DOZ.
14	This Ball is a little under the regulation size sheepskin cover, rubber center and a very lively Ball. Put up in a separate box and sealed	$1 80

Eureka Ball (White).

NO.	DESCRIPTION.	PER DOZ.
8	Nearly regulation size and weight. The best cheap Ball for the money on the market. Each Ball trade marked, and one dozen Balls in a box	$1 20

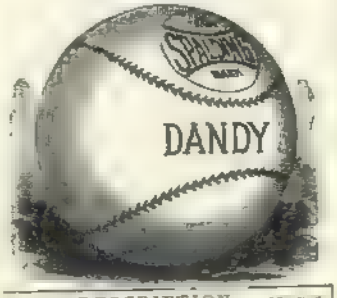
Boys' Lively (White).

NO.	DESCRIPTION.	PER DOZ.
9B	A good Boys' Lively Ball, lively ball size, two-piece cover. Each Ball trade marked, and one dozen Balls in a box,	$1 20

Rocket Ball (White).

NO.	DESCRIPTION	PER DOZ.
13	This is a good low priced Ball. Size 9 in. Weight 5 oz. The best 5 oz. cover Ball in the market. One dozen Balls in a box,	$0 60

Dandy Ball (White).



NO.	DESCRIPTION.	PER DOZ.
15	Not quite as good a Ball as the Rocket. Two piece cover. Put up one dozen in a box	$0 60

Boss Ball.

NO.	DESCRIPTION	PER DOZ.
10	[illegible] made with [illegible] cover. Put up one dozen Balls in a box,	$0 40

Pieced Tinware.

Miners' Oil Canteens.

Improved Pattern, Rounded Edges, with Loop for Belt

NO.	DESCRIPTION.	PER DOZEN.
2	Tin, 4½ × 1½ inches,	$ 3 15
6	Copper, 4½ × 1½ inches,	10 00

Water Canteens.

Galvanized Iron, Covered with Canton Flannel Doubled Cloth Strap

QUARTS.	INCHES.	PER DOZEN.
2	5½ × 7½	$ 8 65
4	4½ × 9½	10 50
6	5½ × 10½	13 50
8	6½ × 11½	15 00

Powder Cans.

GALLON	PER DOZEN.
½	$4 00
1	6 00

Marking Pots.

1 Pint

SIZE	PER DOZEN
1 Quart	$4 00

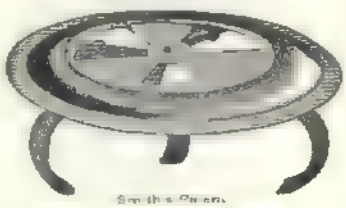
Flue Stoppers.

Common

Crown.

NO.	DESCRIPTION.	PER DOZEN
8	Common, Tin, 5 to 6 inch,	$1 25
16	Crown, Corrugated, Fancy Flower and Landscape Center Piece, 5 to 6 inch,	1 75

SOLD ONLY BY THE DOZEN IN A BOX



Smith's Patent

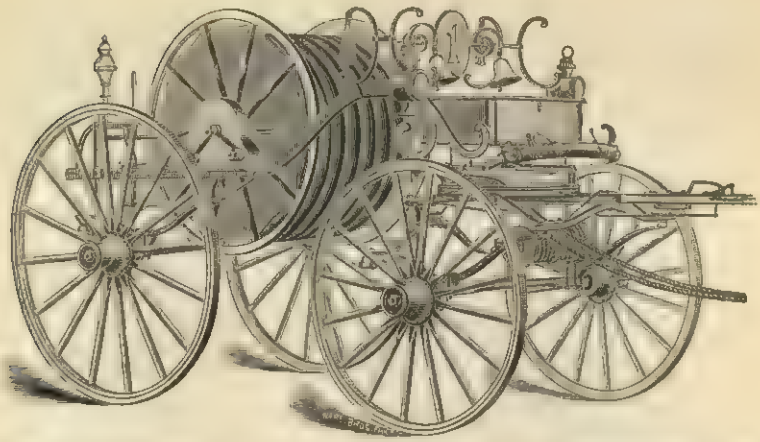
NO.	DESCRIPTION.	PER DOZEN
8	Painted, Assorted Colors, 5 to 6 inch,	$2 00
4	Painted, Assorted Colors, 6 to 7 inch,	2 25

SOLD ONLY BY THE DOZEN IN A BOX

Chimney Thimbles.

SIZE.	PER DOZEN.
6 inch.	$1 45
7 inch.	1 75

FOUR-WHEELED HAND HOSE CARRIAGE.

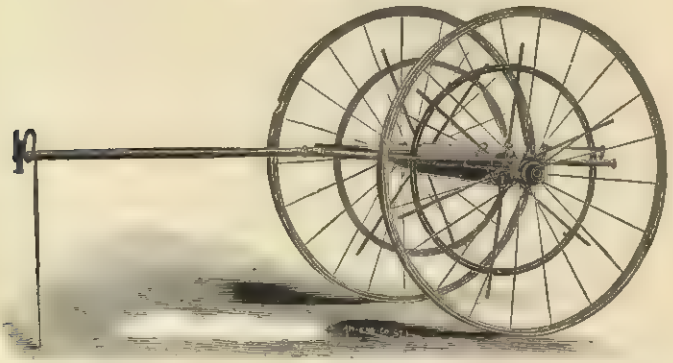


This is a very light, handsome and durable Hose Carriage; can be turned in its own length, and will carry from 600 to 800 feet of hose. The spool is worked by cog-gear as in all first-class equipments. Weight, 1,100 pounds.

It is equipped with Sarven A wheels, with brass hub caps. Cog-gearing spool, with crank handles. Genuine Concord express solid collar steel axles. Platform springs front and rear. One signal lamp, nickel-plated. Two tubular lanterns or side lamps on side of frames. Two brass torches in rear. Two fire axes. Two alarm bells. Brackets for play pipes in front. 75 feet of drag rope. Steel covered spool faces. Tool box and all wrenches necessary.

Price $575 00

MILL HOSE CARTS.

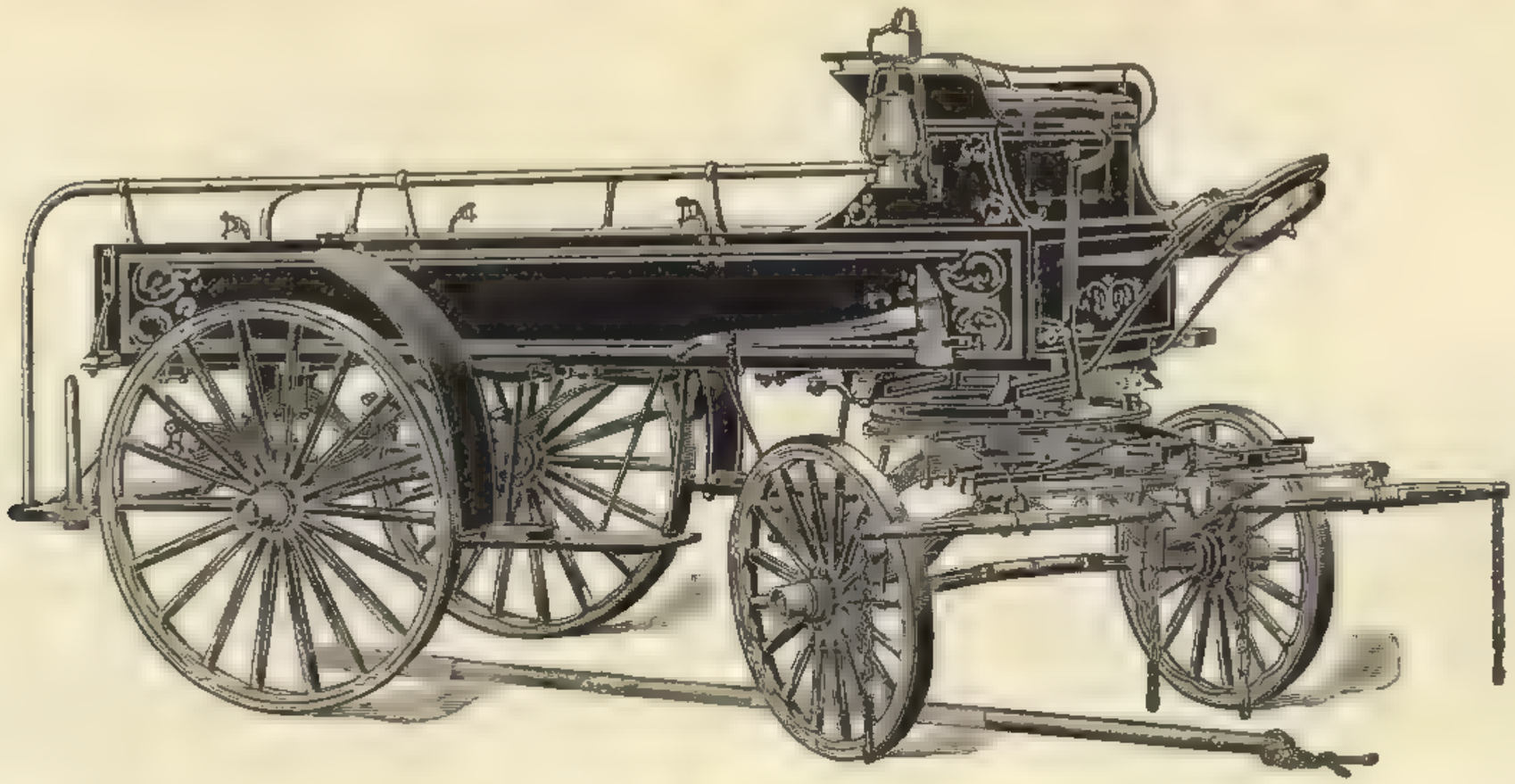


These Carts are made of wrought-iron tubing. They are strong and durable, but light and easy to handle. They have steel axles, patent wheels, are neatly painted and striped, and are particularly adapted for use about mills, factories and public buildings. They have capacity to carry 300 feet 2½-inch rubber hose; 400 feet 2-inch rubber hose; 800 feet 2-inch linen hose; 1,000 feet 1½-inch cotton hose.

Price $50 00

ACME HOSE WAGON.

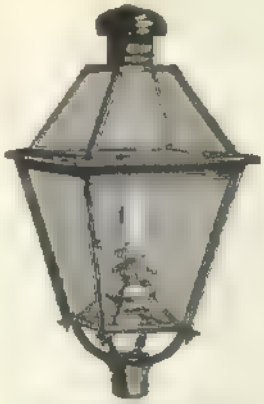
These wagons are handsomely fitted up in the latest style; they are built with a view to lightness and strength, and for either one or two horses.



The equipment consists of Sarven's Patent "A" wheels with steel tires and brass hub bands. Genuine Concord express solid collar, steel axles. Best oil tempered Swede steel, platform springs front and rear. Wheel brake on hind wheels operated by driver. Two tubular lanterns on seat with brass brackets. Canvas cushions with leather facings for driver's seat. Brass railing on both sides of body extending to rear foot board. Rear step for men to ride on. Two play pipe holders on rear foot board. Railing around driver's seat. One steel crowbar and holder. Two pick head fire axes and holders. One 13-inch gong on front toe board to be struck by driver. Tool box under driver's seat. Step on each side of body, with steel mud fenders attached, extending over hind wheels. Neatly painted, finished in gold striping and scroll work. Name and number in gold lettering, as desired. Capacity, from 800 to 1,200 feet rubber hose. Weight, from 1,000 to 1,800 pounds.

Price, adapted to two horses $550 00
For one horse 425 00

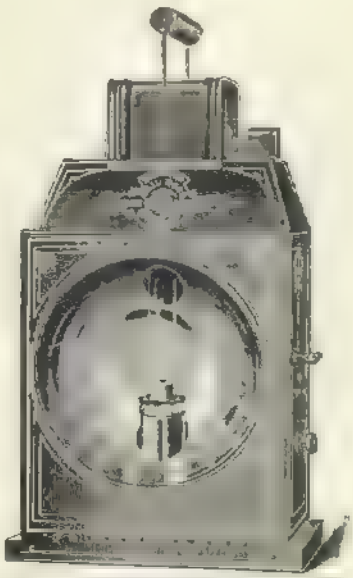
Square Street Lamps.



Corporation Street Lamp.

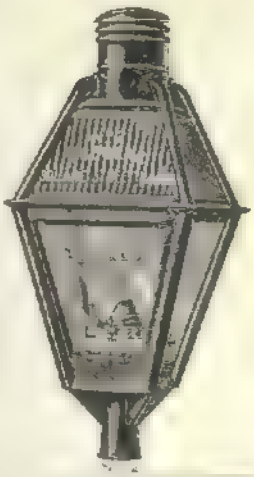
NO.	DESCRIPTION.	EACH.
74	Corporation Street Lamp, complete with Glass Fount, No. 2 Burner and Chimney,	$7 00

Motor Headlight.



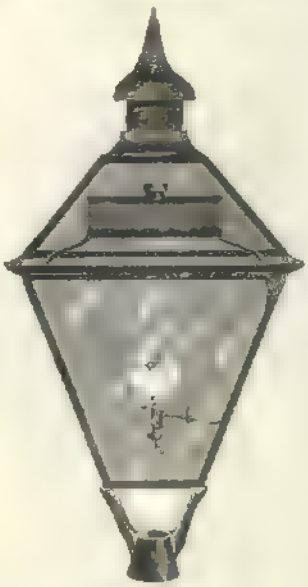
NO.	DESCRIPTION	EACH
634	Motor Headlight with Dash Board Attachment for Cable or Motor Cars,	$17 00

New 10-i... Headlight, for use on Cable and ... Motor ... Engine ... the Searchlight ... Dash ... Plate ... with ... light ... and ... plate ... heavy ... to ... and ... the ... glass ... shield ... It is a ... lamp ... speed. It is a ... lamp ... burned ...



NO.	DESCRIPTION	EACH
2	Square Tubular Street Lamp, No. 3 Burner, Iron Work. Height 13 ...	$9 50

Can be set to turn a certain number of hours and then go out. Has Outside Wick Regulator. Will not blow out.



NO.	DESCRIPTION	EACH
32	Square ... Street Lamp, without Mortise, as above,	$7 00
32½	Same, with Mortise Slide to put in name of street. See opposite cut.	7 50

Our Gasoline Street Lamps are the very best and combine ... the most ... improvements in Naphtha Lamps. Large and strongly constructed cast iron sockets, the rods extend up and down the corners, making the most substantial and durable lamp in the market.

Caution.—Never ... a gasoline lamp when ... accidentally extinguished. Turn off the supply and leave it extinguished ... next night. Fill lamp during the daytime. One pint of 74° gasoline will light five hours, giving a light equal to a 6 ft. gas jet, at about one-tenth the cost. The person that is to attend gives ... he should ... acquaint himself with the work ... of ... and adjustment of the valves. This will be a great ... and guard against accidents.

NO.	DESCRIPTION	EACH
27	Square Lamp for Gas, with Mortise for name, as above,	$8 50
28	Same, without Mortise ...	7 00

Out Door Lamps.

GASOLINE TORCHES for Lighting Shops, Factories, Camps, Construction Work and for Street Venders' Use.

NO.	DESCRIPTION	DOZEN
584	Tubular Tin Side Socket Lamp, with No. 2 Burner, Sun Hinge Chimney and 3-inch Silvered Glass Reflector	$22 00

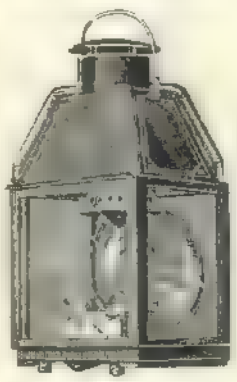
This Lamp is provided with Socket and is constructed that when removed from the Socket it can be used as a hand or table Lamp.

NO.	DESCRIPTION	EACH
5	Gasoline Torch as above	$5 00

Standard Size.

NO.	DESCRIPTION.	DOZEN
15	Tubular Side Lamp, No. 1 Burner, ⅝ inch Wick, 5 inch Silvered Glass Reflector, No. 0 Globe, Japanned.	$18 00
17	Tubular Side Lamp, No. 2 Burner 1 inch Wick, 8 inch Silvered Glass Reflector, Japanned.	27 00

Each size packed in Cases of ¼ dozen.



Nos. 12, 23 and 33.

NO.	DESCRIPTION	EACH
13	Square Tubular Station Lamp, with No. 1 Burner, ¾ inch Wick, 8 inch Silvered Glass Reflector, Height, 15½ inches,	$4 00
23	Square Tubular Mill or Station Lamp, No. 2 Burner, 1 inch Wick, 8 inch Silvered Glass Reflector, Height, 17½ inches,	5 00
33	Square Tubular Mill or Station Lamp, No. 2 Burner, 1 inch Wick, 8 inch Silvered Glass Reflector, Height, 24 inches,	10 00

No. 4.

NO.	DESCRIPTION	EACH
4	Triangular Tubular Lamp, No. 2 Burner, 1 inch Wick, Height, 21½ inches,	$10 00

An excellent Lamp for Large Halls, Mills, Packing Houses, Bridges and stables. Gives a very bright light. Has no chimney to break and is not affected by the wind.

Nos. 11, 21 and 31.

NO.	DESCRIPTION	EACH
11	Square Station Lamp, with No. 1 Burner, Chimney and 8 inch Silvered Glass Reflector, Height, 12 inches,	$2 50
21	Square Station Lamp with No. 2 Burner, Chimney and 8 inch Silvered Glass Reflector, Height, 18½ inches,	3 50
31	Square Station Lamp with No. 2 Burner, Chimney and 8 inch Silvered Glass Reflector, Height, 22 inches,	4 50

Nos. 22 and 34.

NO.	DESCRIPTION	EACH
22	Triangular Station Lamp, with No. 2 Burner, 1 inch Wick, 8 inch Silvered Glass Reflector, Height, 18½ inches,	$3 50
34	Triangular Station Lamp, with No. 2 Burner, 1 inch Wick, 8 inch Silvered Glass Reflector, Height, 22½ inches,	4 50

A good Lamp to be placed in each of Life Rooms and be free, with Silvered Glass Reflector, or for those who circumstances will not permit, upon application

STANDARD COMBINATION WATER PRESSURE AND ALTITUDE GAUGE.

STANDARD ALTITUDE GAUGE.

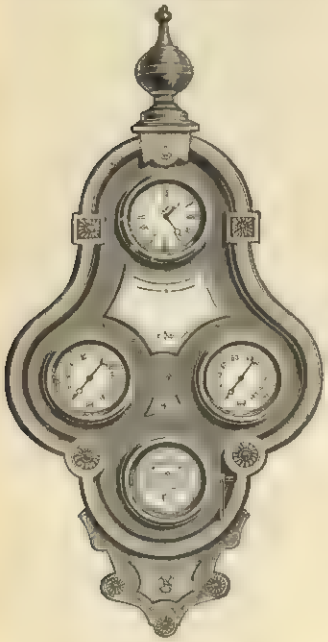
STANDARD COMBINATION WATER WORKS GAUGE.

Diameter Dial, inches	5½	6	6½	8½	10	12
Brass Case	$16 00	20 00	25 00	40 00	50 00	80 00
Iron Case, Japanned	14 00	16 00	20 00	30 00	40 00	60 00

STANDARD ALTITUDE GAUGES.

Diameter Dial, inches	3½	4½	5
Iron Case, Brass Ring	$7 00	8 00	8 00
Iron Case, N. P. Ring	7 18	8 20	8 20

GAUGE FRAME AND SET OF FOUR INSTRUMENTS.



GAUGE FRAMES.

We make gauge frames in great variety of designs, at moderate prices. The following list applies to the elaborate pattern illustrated herewith.

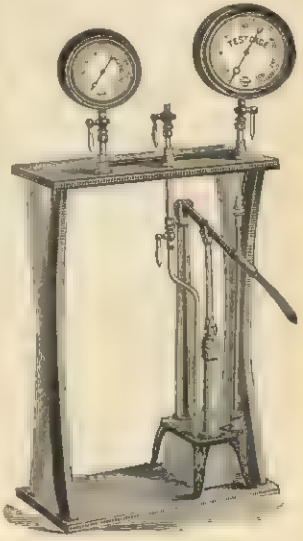
Number Instruments	2	3	4	5
6 -inch Dials	$ 8 00	13 00	16 00	20 00
8½ inch Dials	15 00	20 00	25 00	30 00
10 -inch Dials	18 00	22 00	30 00	35 00
12 -inch Dials	20 00	25 00	32	32 00

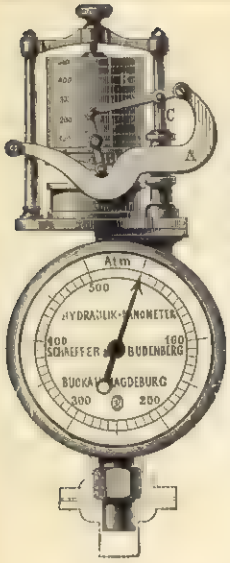
PRICE STANDARD TEST GAUGE, BRASS CASE,

4½-inch dial, $16.00. 6-inch dial, $25.00; 8½-inch dial, $40.00; 10-inch dial, $50.00.

PRESSURE GAUGE TEST PUMP.

Price, complete without Gauges, $50.





PATENT RECORDING GAUGES.

For Steam and Hydraulic Pressure.

The pressure recording gauges here illustrated furnish a true record of the variations of pressure in steam boilers, hydraulic presses, pumping engines, etc. They consist of a pressure gauge, a clock and a recording mechanism, which latter transmits the motion of the gauge spring by means of a rod C and a parallelogram to a writing pencil. This parallelogram is suspended from a two-armed movable lever A, and carries in its middle rod the recording pencil in a vertical line upwards and downwards. By turning the lever A the pencil is brought in contact with a drum B, to which the diagrams are fastened. The figures I to XII engraved on the lower end of this drum form the dial of the clock, while the drum is moved by the clock in a similar way as a pointer; the recording pencil is moved by the gauge spring up and down, according to pressure, marking curves on the diagram, thus recording the variation of the pressure. The instrument is placed in an elegant glass case to keep it free from dust and handling.

Price for 6 inch dial, steam pressure gauge, highly finished, in elegant glass case.....$ 75 00

Price for 6 inch dial, hydraulic pressure gauge, up to 10 tons per square inch..... 100 00

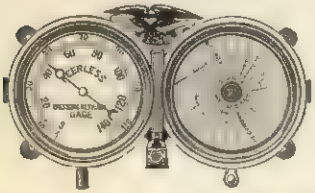
In ordering state the highest working pressure.

REVOLUTION COUNTER.

Square Pattern.

Size.	Figures.	Price.
7 x 2½	4 Figures.	$20 00
8 x 2½	5 Figures.	24 00
9 x 2½	6 Figures.	28 00
10 x 2½	7 Figures.	32 00
4½ x 1½	4 Figures.	13 50
5 x 1½	5 Figures.	16 00
5½ x 1½	6 Figures.	20 00
6 x 1½	7 Figures.	24 00

PEERLESS PRESSURE RECORDING GAUGE.



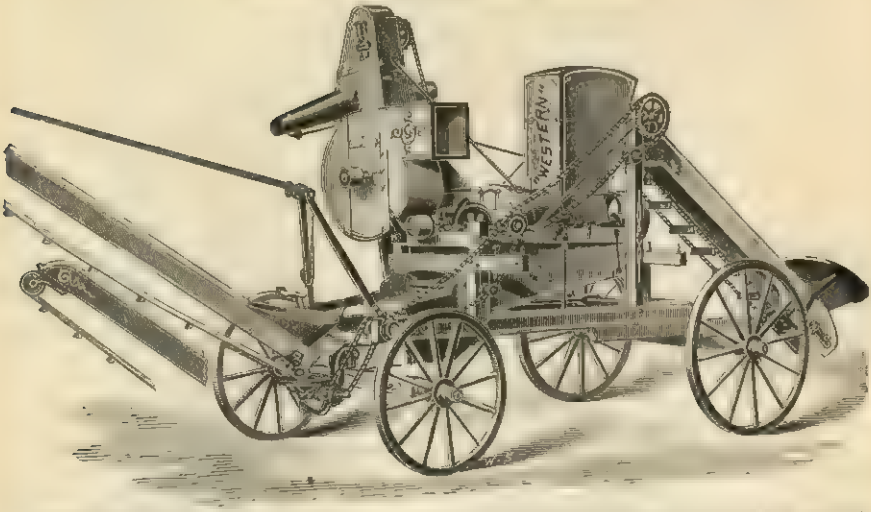
This instrument indicates the pounds' pressure per square inch on one dial which is recorded on the other, which shows the variation for twenty-four hours. The instrument is mounted on a black walnut board.

Price, including a year's supply of dials.....$100 00

ROUND PATTERN REVOLUTION COUNTERS.

Size.	Brass Case.	N. P. O. G. or Oct. Ring.
12 inch, 8 wheels	$110 00	$114 00
10 inch, 8 wheels	95 00	98 00
8½ inch, 8 wheels	80 00	82 50
12 inch, 6 wheels	100 00	104 00
10 inch, 6 wheels	85 00	88 00
8½ inch, 6 wheels	70 00	72 50
6¾ inch, 6 wheels	60 00	62 00

WESTERN FIELD PORTABLE SHELLER.



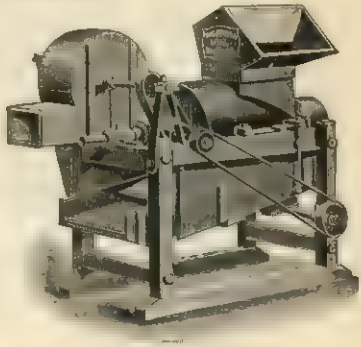
Cut shows machine ready for work. This sheller is a combination of simplicity and convenience and the work done by it makes it the leading favorite. It is equipped with adjustable ear corn elevator, revolving cob stacker and suction fan, all driven and operated with chains except the fan. This sheller is of large capacity, shells clean, cleans perfectly, and saves all the grain. There but one pair of wheels in the entire machine except at foot of revolving stacker. It is durable, light running, will shell any kind or condition of corn, and do it perfectly. It is in every respect the best Portable Sheller made.

No.	Cap. per Hour	Price Complete	Prices without truck.	Speed	Horse Power Steam	Weight Complete.
5	125 to 150	$275 00	225 00	600	5 to 6	1750
4½	150 to 200	300 00	250 00	600	5 to 6	1800
4	200 to 250	325 00	275 00	500	6 to 7	2000
3	300 to 350	400 00	350 00	500	8 to 10	2500

These prices include everything complete as shown in above cut.

THE "WESTERN" MILL SHELLER.

Front and Right-Hand View.



Rear and Left Hand View.

The "Western" Mill Sheller is simple, strong and durable, the shelling surface being chilled. Shells the corn clean from the cob and cleans it perfectly with a suction fan, runs at comparatively low speed, requires but little power.

Extreme Height.	Space on Floor overall	Size Pulley	Revolutions per Minute	Weight.	Capacity, Bushels per Hour	Price
8 ft. 8 in.	3 ft. 9 in. x 2 ft. 1 in.	8 in. x 5 in.	600	500 lbs.	60 to 75	$100 00

BIG GIANT CORN AND FEED MILLS.

The grinders are of chilled iron, can be readily detached when worn out, and at small expense replaced with new ones, thus making the mill as good as new. Owing to the peculiar construction of the mill it grinds from top to bottom, thus securing the greatest possible capacity

PRICES.

No. 2, Big Giant, one-horse, weight 300 lbs., capacity 8 to 14 bushels per hour	$35 00
No. 3, Big Giant, two-horse, weight 350 lbs., capacity 12 to 16 bushels per hour	45 00
No. 4, Big Giant, large two-horse, weight 450 lbs., capacity 18 to 22 bushels per hour	60 00

Our estimates of capacity of mills are for coarse grinding, about the consistency of hominy, or a shade finer, and were made with team making four circuits around the mill per minute, grinding old dry corn. Corn in February and March will grind one third faster than in October and November. They are made from actual tests are correct, yet owing to the different conditions of corn, changes in the weather, speed of team, etc., the capacity of any mill will be found to vary so widely at different times that we make no guarantee in that regard. We guarantee all our mills to be well made of good material, and we will replace parts broken from manifest defects in the material, free of charge, but such part must be returned to us free of freight expense within one month after shipment of mill.

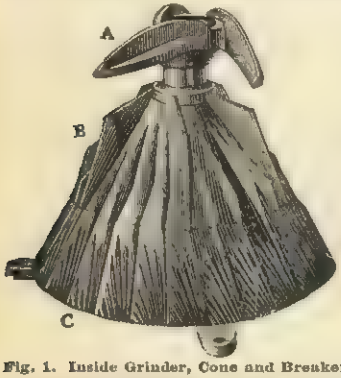


Fig. 1. Inside Grinder, Cone and Breaker Arm.

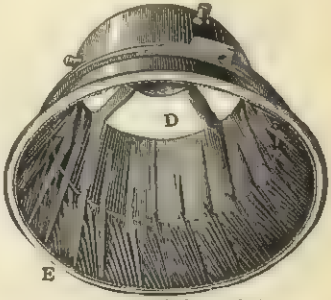


Fig. 2. Outside Grinder and Shell.

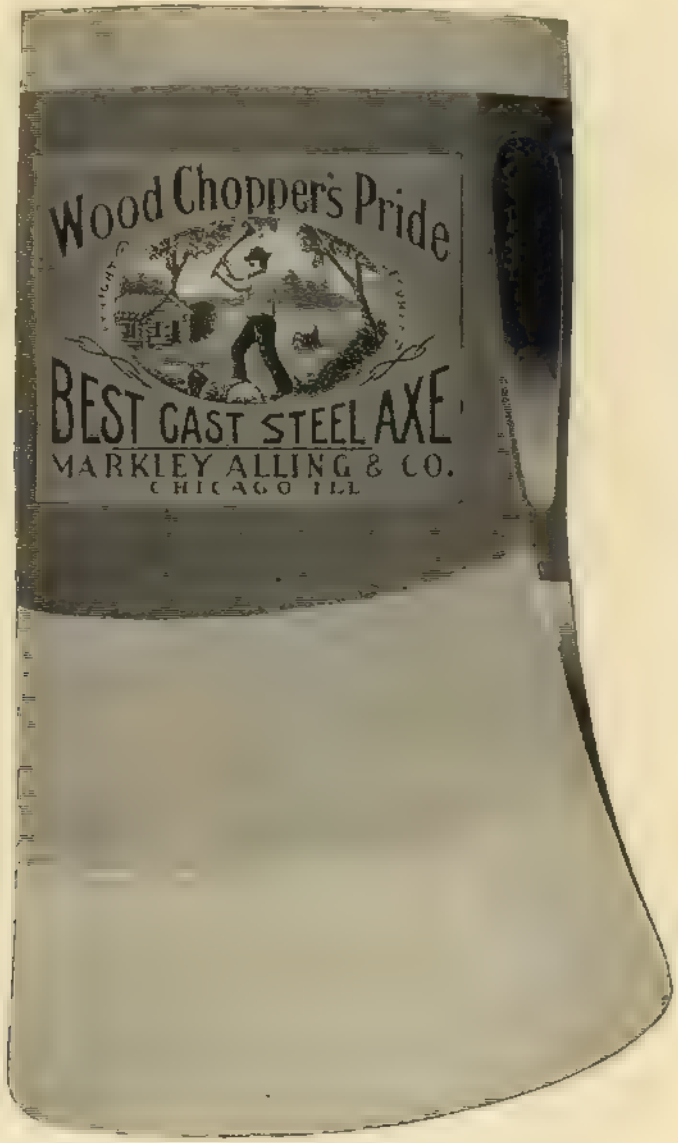
Fig. 1 shows our inside grinder, cone and breaker arm. The breaker arm keeps the corn from riding on the arms of the mill, and stirring it at the hopper as well as breaking it, secures a certainty of self feed never heretofore secured.

Fig. 2 represents the outer grinding surface of the mill laid off to correspond or match the inside parts. The great feature of these parts is that they are adjustable where the shell D, and outer grinder E, come together, and with the aid of three set and clamp screws can be drawn together or forced apart, as the wear of the mill requires. This is an advantage belonging to this mill exclusively, and by it we secure the point of the grinding till the mill is worn out.

The grinders are so arranged that they are self sharpening, and will cut equally well until the cutting edges are worn down smooth. They can be replaced at small expense when worn out. A set of grinders will grind several thousand bushels of meal, and when worn out can be replaced at a less price than the dressing of a burr stone mill.

Our Wood Chopper's Pride Axe.

Yankee Pattern.



Gold Bronzed.

	Per Dozen
Narrow Bit, Heavy Square Poll, Inserted Steel, ...	$9.00

Weights, assorted,

3x4 lbs. 3¼x4¼ lbs. 3½x4½ lbs. 3¾x4¾ lbs. 4x5 lbs.

One Dozen in a Box.

Our Wood Chopper's Pride Axe.

Western Pattern.

Gold Bronzed.

	Per Dozen
Wide Bit, Medium Square Poll, Inserted Steel, ...	$9.00

Weights, assorted,

3x4 lbs. 3¼x4¼ lbs. 3½x4½ lbs. 3¾x4¾ lbs.

One Dozen in a Box.

WHITMAN'S IMPROVED RAILWAY HORSE POWER.

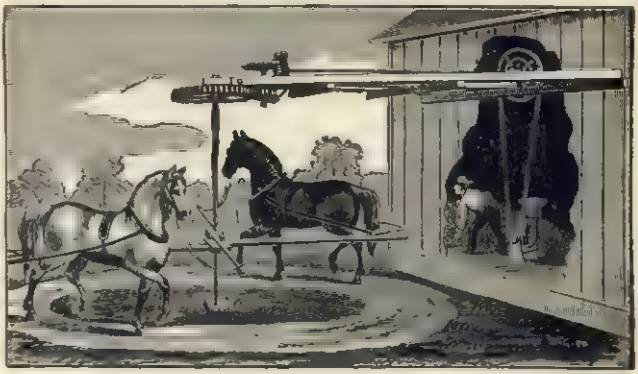
(With Automatic Speed Governor.)

This improved power is the result of many years practical experience in building this specialty, and is claimed to be fully 25 per cent more efficient than any other make whatever. Its mechanical construction is superior to that of any other machine of its class. It is guaranteed easier on the horses than any other sweep power or any other make of railway power. Its speed governor is simple, self-acting and efficient. This power occupies little space and is adapted to uses where other kind could not be utilized. Send for special circular.

One Horse Power, without Governor	$125 00
Two Horse Power, without Governor	150 00
Governor complete, extra	7 00
Mounted on Four Wheels, with Axle and Tongue complete, extra	50 00

TAYLOR PATENT HORSE POWER.

Adapted to direct connection with all kinds of farm machinery that can be driven by belt. This power is available wherever there is convenient room to set it up, as shown in cut, and dispenses with the need of speed jacks or any intermediate gearing. It may be placed in the basement of barns or shops to operate machinery on same level or overhead, and can be used to advantage in many cases where other kinds of powers are not adapted. For carpenter shops, small planing mills, etc., it affords a cheap and effective motive power.



Heavy One-Horse Power	$ 50 00	Weight	600 pounds
Two-Horse Power	75 00	"	900 "
Four-Horse Power	100 00	"	1200 "

SCHAFFER'S HYDRAULIC WHEEL PRESSES.

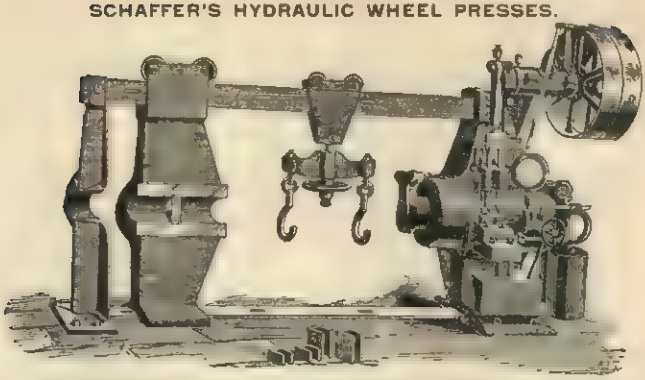


Fig. 7. Cut illustrates our press with extra attachments for pressing off and on pinions, gears and commutators of electric motors.

We make hydraulic presses in various sizes, to accommodate wheels from 36 to 84 inches diameter, and to generate pressures of 150 to 300 tons. Pulley shaft may be parallel or at right angle to line of press, as ordered. Our variable delivery pumps have large and small pistons. An automatic device governs the large pump perfectly, without any attention from the operator, so that the instant the gauge indicates 20, 25 or 30 tons (accordingly as the governor may be set), the water from large pump is returned to the water box without entering the cylinder, and the small pump (without any stop) does the high pressure work. The *instant* the pressure does not exceed the limit set, both pumps discharge into the cylinder again, causing the ram to move out rapidly. By this combination the work can be done rapidly without undue draft on the power. All valves of the pumps are accessible by simply unscrewing the bonnet nuts. On the larger machines of this type, the release valve and gauge are located between the pumps and open end of cylinder, so to be convenient for the operator. Prices and descriptive matter on application.

PLAIN HYDRAULIC JACKS.

This style is designed for use where a good, firm rest can be obtained for th Jack, and there is sufficient room for the Jack under the work.

Jacks to work either horizontally or perpendicularly made to order at same prices.

Jack to Lift.	Total Height	Weight.	Price.	Jack to Lift.	Total Height	Weight	Price.
5 Tons 4 in.	11 in.	27 lbs.	$36 00	10 Tons 24 in.	37 in.	100 lbs	$ 80 00
4 " 12 "	25 "	41 "	40 00	15 " 12 "	25 "	98 "	80 00
7 " 12 "	25 "	50 "	56 00	15 " 18 "	32½ "	118 "	92 00
7 " 18 "	31 "	61 "	60 00	20 " 12 "	25½ "	115 "	96 00
7 " 24 "	37 "	80 "	64 00	20 " 18 "	32 "	140 "	115 00
10 " 12 "	25 "	70 "	64 00	30 " 9 "	20½ "	160 "	120 00
10 " 18 "	31 "	88 "	72 00	30 " 12 "	27½ "	218 "	140 00

BROAD BASE HYDRAULIC JACKS.

This style is to be used when the Jack stands upon the ground or light board and can be placed under the work or where steadiness is required. They are used largely under locomotives, cars, etc.

Jacks to work either horizontally or perpendicularly at same prices.

Jack to Lift.	Total Height	Weight.	Price.	Jack to Lift.	Total Height.	Weight	Price.
4 Tons 12 in.	25 in.	62 lbs.	$ 46 00	15 Tons 12 in.	25½ in.	127 lbs.	$ 100 00
7 " 12 "	25 "	71 "	64 00	15 " 18 "	32 "	150 "	120 00
7 " 18 "	31 "	83 "	67 00	20 " 12 "	25 "	150 "	120 00
7 " 24 "	37 "	100 "	70 00	20 " 18 "	32 "	188 "	140 00
10 " 12 "	25 "	100 "	76 00	30 " 9 "	20 "	200 "	136 00
10 " 18 "	31 "	110 "	88 00	30 " 12 "	26 "	250 "	160 00
10 " 24 "	38 "	115 "	100 00				

Special lengths made to order at prices of next longer length.

If you are in need of a **Good Box Strap** give us a trial on our Self Drawing Wires.

DE HAVEN MFG. CO.

PAT'D DEC 13TH 1887.

BROOKLYN, N. Y.

In Bundles of 100 pairs each lengths from 4 to 12 ft. Also Reels of 5,000 feet. Buying in this way there is no waste.

MILLERS FALLS CO.

93 Reade St., NEW YORK

Our New Catalog of

JULY, 1895

Now Ready for Distribution

Contains many new things in the line of . . . .

STEEL BUTTS and . . . **HINGES**

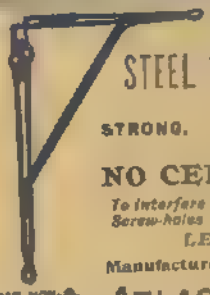
Forwarded on Application

THE STANLEY WORKS

NEW BRITAIN, CONN.

70 Chambers St., New York

BRADLEY STEEL SHELF BRACKETS



STRONG. LIGHT. ARTISTIC.

NO CENTRAL RIB

To interfere with driving the screws. Screw-holes wide apart.

LEADING JOBBERS

Manufactured by

PAT. NOV. 6, 1888. SAMPLE FREE.

ATLAS MFG. CO., NEW HAVEN, CT.

STAR HACK SAWS
STAR BUTCHER SAWS
STAR BRACKET SAWS

} HEADQUARTERS

SLEIGH BELLS .. and .. **DOG COLLARS**

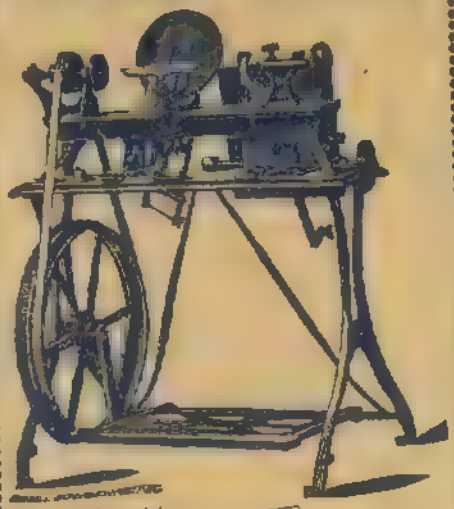
All Sty'es, Pr ces and Kinds

Send for Illustrated Catalogue

THE CHAPMAN MFG. CO.

MERIDEN, CONN.

The Babbitt Lathe



Manufactured by

A. J. WILKINSON & CO.

184 Washington St.

BOSTON, MASS.

SEND FOR DESCRIPTIVE CIRCULAR.

SLATE

Is the Best Roofing Material, consequently always the cheapest. We furnish all grades and colors at lowest Quarry Prices. Write for our new Slate Manual and Descriptive Price List before placing orders. **We can save you money.**

SLATE

Always on hand ready to ship. Wire us for prices when in a hurry.

We sell the Genuine

BANGOR ROOFING SLATE
PENNSYLVANIA BLUE
FRANKLIN AND WASHINGTON
JACKSON, BANGOR and PEN ARGYL
CHAPMAN AND PEACH BOTTOM
SEA GREEN and RED
PURPLE and UNFADING GREEN

SLATE

:: WRITE US ::

Slatington-Bangor Slate Syndicate

JAMES L. FOOTE, MANAGER.

SLATINGTON, PA.

STANDARD TOOL CO.

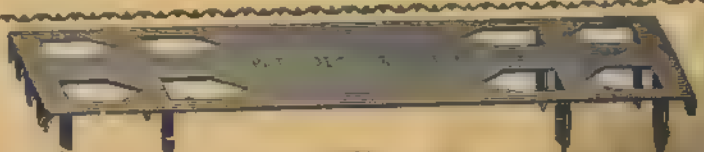
CLEVELAND, OHIO . .

94 Reade St., NEW YORK

Twist Drills, Reamers, Taps, Spring Cotters and Keys.

Our Clutch Nails,

Sizes,
3/8x1/2 4x1-6x1 6x1
Best of Stock.

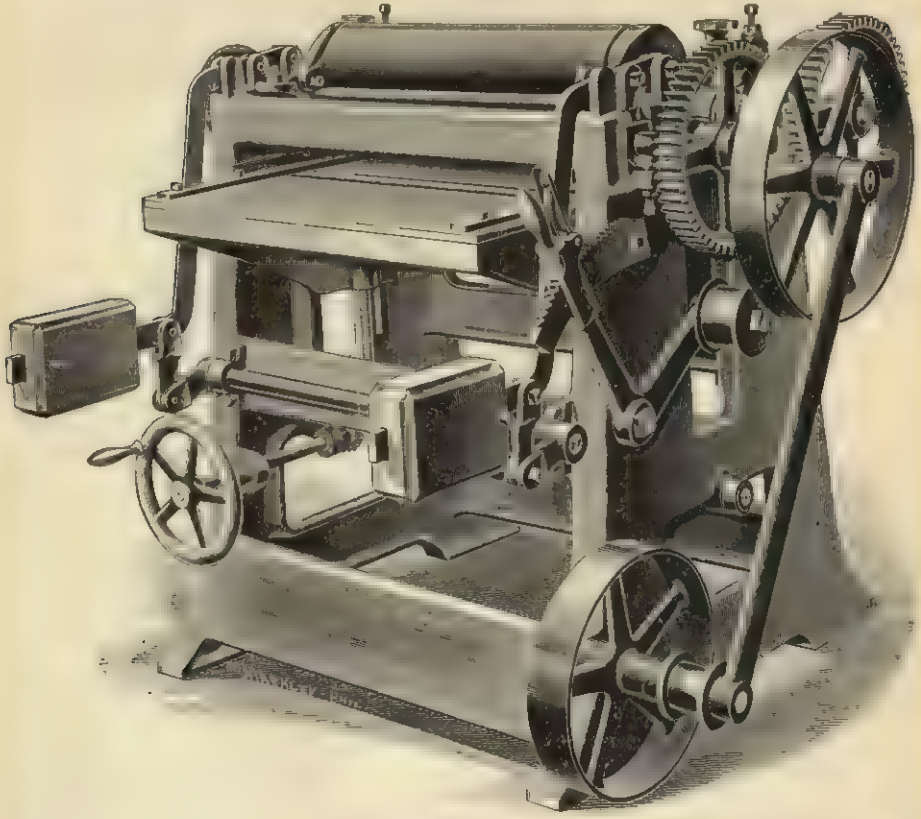


Write for Catalogue of Specialties for the Shipping Dept.

DE HAVEN MFG. CO.,
BROOKLYN, N. Y.

WILLIAMSPORT NEW PATTERN SURFACE PLANER.

Planes one-sixteenth of an inch to 6½ inches thick, 20 to 24 inches wide.



This Machine is really a large Planer in a small way. The Frame is cast in one piece. The Bed is also cast in one piece, and so fitted in the Frame as to make it very rigid and substantial.

The Cylinder is made from the best grade of steel, with the Bearings and Head forged in one piece, making the best Cylinder known. The Shaving-Hood is so arranged as to prevent any shavings from getting under the smooth Rolls to mark the lumber. There are Pressure Bars on each side of the Cylinder, insuring steadiness when planing short or thin stock, and preventing tearing out or clipping of ends. The front Pressure Bar is self-adjusting, regulating itself to the various thicknesses of lumber being planed.

There are four large Feed Rolls, the front one being weighted, and connected with improved rock shaft connections, making it impossible for one end of the Roll to raise without the other. The back Feed Roll receives its pressure from steel Coil Springs. The Bed is quickly raised and lowered by a Hand Wheel.

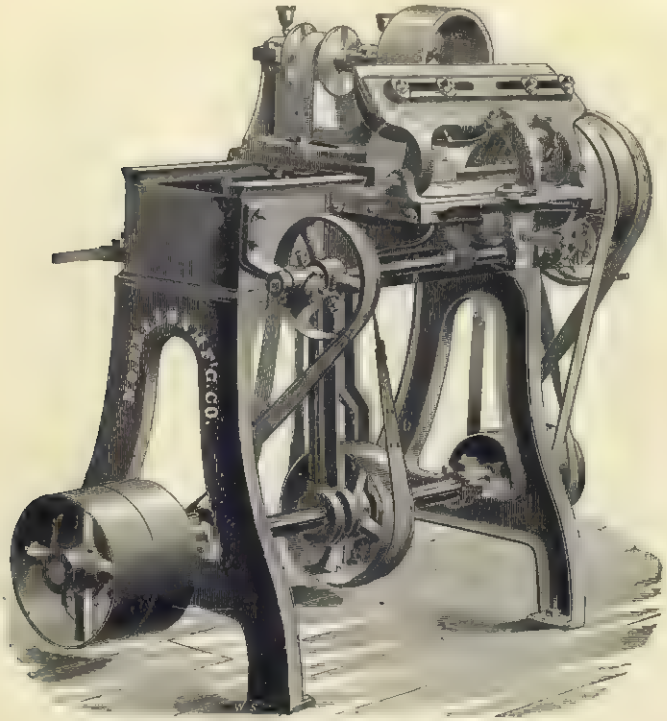
Floor space required, 4 ft. 4 in. by 4 ft. Size of Pulley on Cylinder, 4 in. diameter, 5 in. face; should make 4500 revolutions per minute.

Tight and loose Pulleys on Counter-Shaft, 10 x 4; should make 900 revolutions per minute.

	Price.
Weight of 20-inch Machine, 1350 pounds	$180 00
" 24 " " 1500 "	205 00

NELSON'S PATENT KNIFE GRINDING MACHINE.

FOR PLANER KNIVES.

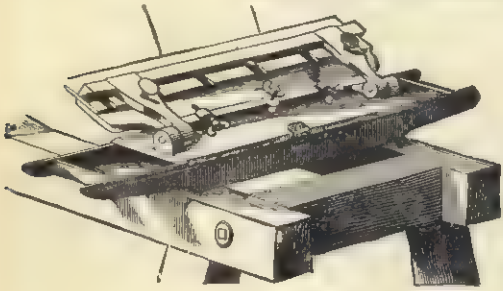


The cup wheel is so arranged that any desired bevel may be obtained, and the knives can be ground perfectly true. The wheel has automatic movement, forward and backward. The clamps, or jaws, which hold the knife have an automatic feed, enabling the operator to adjust it to any desired cut wanted, and when set will take care of itself.

The machine is of first-class construction throughout, and is in all respects the best in the market. Tight and loose pulleys, 8 inches diameter, 4 inches face. Should make 600 revolutions per minute.

Price, for 24 inch Knives $150 00
Price, for 30 inch Knives 175 00
Price, for 36 inch Knives 200 00

COMMON KNIFE GRINDING MACHINE.

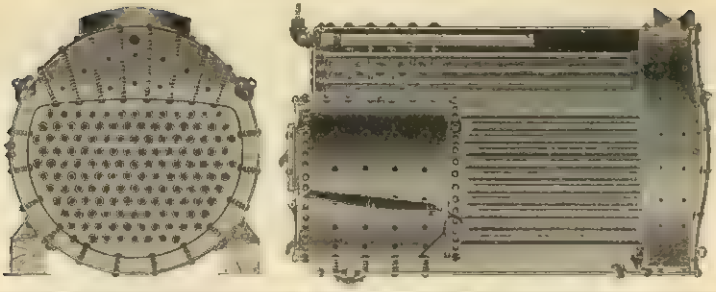


This useful appliance to the ordinary grindstone is adapted to all kinds of straight edge-grinding, enabling an inexperienced hand to do work which ordinarily requires the most skillful workmen.

Price $16 00

PATENT FIRE BOX MARINE BOILERS.

United States Marine Test.



Experience with boilers of this type, in boats plying on western waters, demonstrates many valuable features. They are designed for common soft coal or wood, and for use where a low center of gravity is of importance. High steam pressure can be safely carried without involving undue weight of boiler.

The specifications below are for coal-burning boilers. If wood is used the fire-box lengths are increased, and other proportions modified.

Trimmings include smoke stack, grates, steam gauge, water gauge and gauge cocks, firing tools, steam whistle, pop safety valve and blow off cock.

SHELL		FIRE BOX		TUBES			Square Feet Heating Surface	Licensed Steam Pressure	Size Engine Cylinder suitable for Natural Draft	Approximate Weight Pounds	PRICE
Diam Inches	Length Inches	Diam Inches	Length Inches	No	Diam	Length Inches					
30	52	25	22	89	2	24	51	175	5 x 5	1,500	$ 185 00
36	58	30	25	66	2	26	89	165	6 x 7	2,300	250 00
42	62	37	26	88	2	28	129	140	7 x 7	3,200	325 00
48	72	42	30	109	2	34	188	145	7 x 8	4,300	420 00
54	84	48	36	138	2	40	278	150	8 x 10	6,100	525 00
60	84	54	41	197	2	36	354	140	10 x 10	7,800	630 00
60	96	54	47	197	2	42	406	140	10 x 12	8,200	685 00
66	96	60	48	249	2	40	491	125	11 x 12	9,500	850 00
72	105	66	48	213	2½	46	606	135	12 x 14	11,000	1025 00
78	120	72	60	266	2½	48	775	120	14 x 16	15,000	1450 00

Vertical Pattern.

VERTICAL MARINE BOILER.

The annexed cut shows a well designed and suitably built submerged tube vertical marine boiler, for small launches, etc.

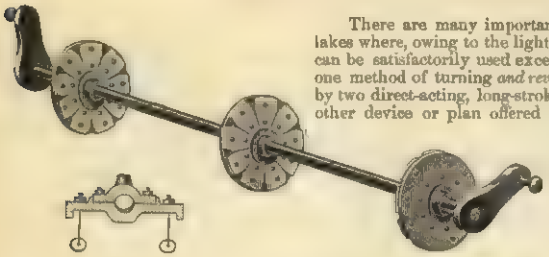
It is a quick and easy steamer, occupies but little space, and is not top heavy. It is very easily cared for, safe, and will stand rough usage without leaking.

We build them to order, according to the United States Marine laws, and guarantee every boiler to pass inspection for use on any waters under government control.

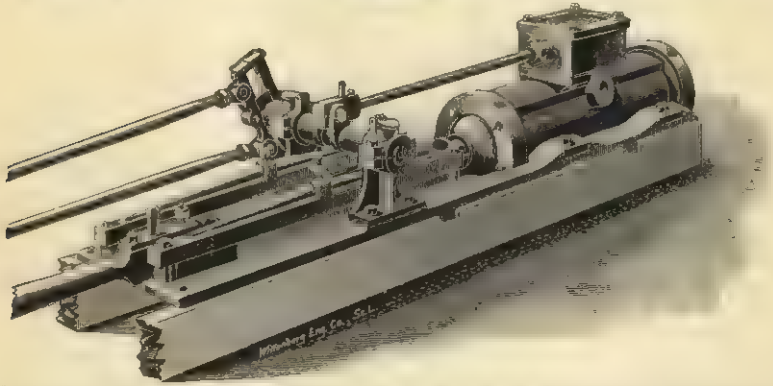
Our standard sizes are as follows:

SHELL.		TUBES.		FIRE-BOX.			Square Feet Heating Surface.	Licensed Steam Pressure.	Size Engine Cylinder suitable for	PRICE.
Diameter.	Height over Ash Pan.	Number.	Diameter.	Height.	Diameter.	Height of Ash Pit.				
26	50	30	2	18	22	4	38	180	4 x 4	$170 00
30	52	64	2	18	26	4	62	150	5 x 5	200 00
36	58	91	2	18	32	5½	95	130	6 x 7	250 00
42	62	120	2	18	38	5½	130	140	7 x 7	325 00
48	72	160	2	20	42	8	183	120	7 x 8	425 00
54	76	186	2	22	48	8	230	130	9 x 10	500 00

STERN WHEEL MACHINERY OUTFIT.



There are many important runs to be made on shallow rivers and lakes where, owing to the lightness of draft required, no type of steamer can be satisfactorily used except the stern paddle wheel. There is but one method of turning *and reversing* this wheel satisfactorily, and that is by two direct-acting, long-stroke engines, designed for that duty. Every other device or plan offered has proved more or less expensive to the user, and never satisfactory. We show engraving of one of our long-stroke engines, of which a pair is used in each boat. *In the small and medium sizes we recommend the slide valve, but will substitute a piston valve without extra charge, if advised with the order.*



For the convenience of our correspondents we give a list showing our standard sizes of engines, together with approximate sizes of hulls that each outfit is best suited to for general service:

Double 4 x 16 direct-acting outfit, in hull 35 x 9 feet, having a draft of 14 inches.
Double 5 x 20 direct-acting outfit, in hull 45 x 10 feet, draft 15 inches.
Double 5½ x 20 direct-acting outfit, in hull 46 x 11 feet, draft 16 inches.
Double 7 x 28 direct-acting outfit, in hull 65 x 12 feet, draft 18 inches.
Double 10 x 40 direct-acting outfit, in hull 100 x 18 feet, draft 24 inches.

Those building their own hulls and purchasing the outfit of machinery from us, will, if desired, be furnished, free of charge, with blue prints from drawings of similar work, which may serve as a guide to them in building their hull and in placing the machinery. To parties who are building their own hulls, we furnish the boiler and engines, necessary wheel shaft and spiders, proper length of connecting rods, eccentric rods and reversing gear, suitable automatic cylinder oilers, and oil cups, quarter brasses, etc. All of proper design, and made for the purpose.

Following we give two sample standard outfits, of which we can furnish many more. Correspond with us for estimates.

Double 4 x 16 Stern Wheel Outfit, Suitable for Hull 35 to 40 Feet Long.

Two 4 x 16 long-stroke, direct-acting, Stern Wheel Marine Engines, each complete on beds, with connecting rods, eccentric rods, wheel shaft, shaft boxes and iron spiders for the paddle arms; both reversing gears operated by one locomotive lever, including also two pillow blocks with quarter brasses, sight feed cylinder lubricators, slide-top glass oil cups, grease cups, and quick-opening throttle valve; one 42 x 62 horizontal fire box marine boiler, complete; one steam boiler feed pump, complete; one No 2 lever injector; one bilge pump siphon, size "A"; one sea cock with strainer and valve; one exhaust steam feed water heater. Total weight about 3,600 lbs.

Double 5 x 20 Stern Wheel Outfit, Suitable for Hull 45 to 50 Feet Long.

Two 5 x 20 long-stroke, direct acting Stern Wheel Marine Engines, each complete on bed, with connecting rods, eccentric rods, wheel shaft, shaft boxes and iron spiders for the paddle arms; both reversing gears operated by one locomotive lever; including also two pillow blocks with quarter brasses, sight-feed cylinder lubricators, slide-top glass oil cups, grease cups and quick opening throttle valve.

One 48 x 72 Horizontal Fire-box Marine Boiler, all complete; one steam boiler feed pump; one combination deck test and hand boiler feed pump; one No. 3 lever injector; one bilge pump siphon, size "A"; one sea cock with strainer and valve; one 3-way exhaust cock; one exhaust steam-feed water heater. Total weight about 6,000 lbs.

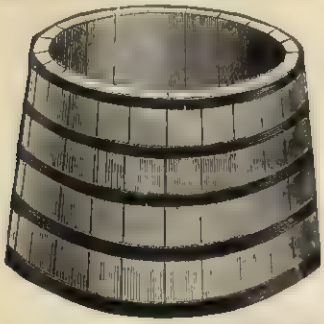
MILL AND STORAGE TANKS.

Open Top, Round Pattern, 2-Inch Staves.

We are prepared to make tanks of all sizes, and for all purposes, at reasonable prices. Our tanks are made from selected pine, or cypress, of good common grade free from knots or "shakes." The material is all dressed, cut to pattern and each tank set up and hooped. It is then given a good coat of mineral and oil paint after which the hoops are removed and numbered, the staves and bottom pieces marked, and the whole taken apart and crated for shipment.

Tanks made of 2 inch lumber weigh about 50 per cent more than the weights given below for sizes named.

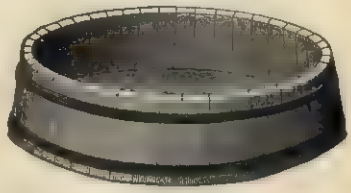
All of our round tanks are provided with hoops of suitable weight with patent lugs and draw bolts, or with riveted hoops, as preferred.



Length Staves.	Diameter.	Number Hoops.	Gallons.	Approximate Weight. Pounds.	Price with Drive Hoops.	Price with Lug Hoops.
3	6	3	341	400	$14 50	$15 75
4	6	4	344	450	18 00	19 50
6	6	5	1,025	700	24 00	26 00
8	6	7	1,325	850	31 50	34 00
4	8	4	1,198	700	24 50	26 50
6	8	5	1,883	900	34 00	36 [illegible]
8	8	7	2,569	12,00	43 50	47 00
10	8	8	3,254	15,00	52 50	57 00
12	8	9	3,938	1,750	60 50	6 [illegible] 00
8	10	7	4,092	1 700	57 00	62 00
10	10	8	5 109	1,900	67 50	72 50
12	10	9	6 275	2,100	78 50	84 50
8	12	7	5 970	2,000	71 00	75 00
12	12	9	9,184	2 500	96 50	102 00

ROUND STOCK TANKS.—2-Inch Staves and Bottom.

Length Stave, Feet	Dia. of Bottom, Feet	Number Hoops.	Gallons.	Approx. Weight.	With Drive Hoops.	With Lug Hoops.
2	6	2	280	275	$11 00	$11 75
2	8	2	514	425	16 50	17 50
2	10	2	818	600	23 50	25 00
2½	6	2	373	325	12 50	13 50
2½	8	2	685	475	18 50	19 50
2½	10	2	1,091	700	25 50	27 00
2½	12	2	1,592	900	35 00	37 00
3	6	3	341	400	14 50	15 75
3	8	3	856	550	21 50	22 50
4	6	4	344	450	18 00	19 50



HALF-ROUND STOCK TANKS.

We make these Tanks of 2 inch lumber and joint them in the same manner as our Round Tanks. The hoops are made of round iron, and the cross-ties of oak. Special sizes will be built to order.

Length, Feet.	Breadth, Feet.	Depth, Inches.	Gallons.	Barrels.	Approx. Weight.	Prices.
6	3	18	133	4¼	165	$ 6 50
8	3	18	186	6	200	8 00
10	3	18	239	7¾	250	9 00
10	3½	21	325	10	295	10 75
10	4	24	425	13½	340	12 50
12	3	18	282	9½	280	10 00
12	3½	21	396	12½	330	12 00
12	4	24	517	16¼	380	14 00

COMMON TANK LUGS AND BOLTS.

Price, per pair, for 2 inch hoops, 45c; 2½ inch, 75c; 3 inch, 90c. Price includes one bolt with each pair of lugs for 2 inch hoops. Two bolts with larger sizes.

TECK PATENT TANK LUGS.

Pat. Mar. 20, '94.

Size	1½	1¾	2	2½	3	3½	4	4½	5	6
Price, each	8 40	50	60	80	1 00	1 50	2 00	2 50	3 00	3 50

The 4 inch and larger are made with two bolts.

DIRECTIONS.

Bend the end of the hoop a little, from two to three inches from the end, according to size of lugs then pass the end of the hoop through the casting, as seen in cut, allowing the bend in the hoop to come against the shoulder of the casting; drive in the wedge solid, hammer the short end flat with the casting, and it is ready for use.

WOOD PUMPS.

National Pump Company's Pattern.

Cut shows Screw Cylinder, Iron Spout, with Open Handle Bracket.

The National Pump Company's works, operated by us, are situated at Mound City, Ill., upon the Ohio River, just below the mouth of the Tennessee and Cumberland Rivers. They occupy several acres of ground and employ about 100 men.

The best of yellow poplar logs are bought by our own agents in the finest timber regions of Tennessee, and every process, from the stump to the finished pump, is performed by our own men and machinery. We possess every possible advantage for economical production. The factory does an exclusively car load business. Our instructions are to make the best possible pump, without regard to expense. Every improvement in fixtures, cylinders, etc., is utilized, and no pains are spared to insure good quality.

The NATIONAL Pump is undoubtedly superior in looks, as well as in quality, to any other wood pump now on the market, and buyers get their goods at first hands.

We pay particular attention to the prompt filling of orders.

Standard Price List. Iron or Wood Spout.

No. 00.—EIGHT INCHES SQUARE. FIVE INCH BORE.

Length, feet	6	7	8
Price, porcelain lined	$9 50	$10 50	$11 50
" without lining	7 50	8 50	9 50

No. 0.—SEVEN INCHES SQUARE. FOUR INCH BORE.

Length, feet	6	7	8	10	12
Price, porcelain lined	$7 80	$8 50	$9 10	$10 30	$11 50
" without lining	6 20	6 90	7 50	8 70	9 90

No. 1.—SIX INCHES SQUARE. THREE AND ONE-HALF INCH BORE.

Length, feet	6	7	8	10	12	14	16
Price, porcelain lined	$6 50	$7 00	$7 50	$8 50	$9 50	$10 50	$11 90
" without lining	5 00	5 50	6 00	7 00	8 00	9 00	10 10

No. 2.—FIVE INCHES SQUARE. THREE INCH BORE.

Length, feet	6	7	8
Price, porcelain lined	$5 75	$6 00	$6 25
" without lining	4 25	4 50	4 75

TUBING AND COUPLINGS.

Number	00	0	1	2
Size	5 x 5	4½ x 4½	4 x 4	3½ x 3½
Price Tubing per foot	$0 30	$0 20	$0 15	$0 12
" Tubing with Bands per foot	60		40	30

EXTRAS.

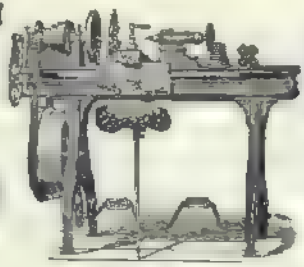
Iron Spouts, Japanned	each,	$0 30	Plungers, 3 in	each,	$0 65
Iron Spouts, Pat. Loose Collar	"	0 40	Plunger Woods	per doz.	3 00
Wood Spouts	"	0 15	Plunger Leathers	" "	3 50
Braces for Wood Spouts	"	0 15	Handles	each,	0 30
Iron Brackets, open	"	0 40	Handle Links	"	0 25
Iron Brackets, closed	"	0 50	Bands	"	0 10
Plungers, 5 in	"	1 25	Check Valves	per doz.	1 50
" 4 in	"	1 00	Splice Straps	per pair	0 25
" 3½ in	"	0 80	Iron Pipe Connections	each,	0 75

Lathes.

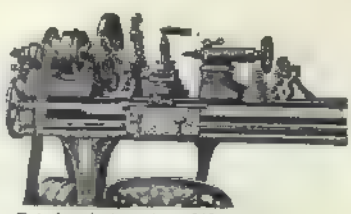
No. 4.

No. 4½.

All Iron and Steel, Velocipede Foot Power



No. 5.



Cut showing portion of Nos. 5½ and 6 Screw Cutting Engine Lathes.

All Iron and Steel, Velocipede Foot Power

NO.	DESCRIPTION.	EACH
4	Lathe, Complete as Described, -	$ 40 00
4½	Lathe, Complete as Described, -	70 00
5	Lathe, Complete as Described, -	100 00

No. 4 Lathe is designed for turning both wood and iron, and for boring drilling, polishing, etc. It is a desirable size for small work, and has many important advantages in the construction and arrangement of its parts. It swings 7 inches and takes 20 inches between centers. The speed can be varied from 1,000 to 2,000 revolutions per minute. The bed is solid, and has V-shaped projections, over which the head and tail stocks and hand and slide rests are fitted. The lead-screw for the carriage is operated by hand; by it the carriage can be traveled 20 inches, the entire distance between the centers. The carriage can be engaged or disengaged instantly from the lead screw. The upper or cross feed way on which the tool post moves can be set at any desired angle, and tapers can be turned and taper holes can be bored to the extent of its travel. The tail-stock can be moved and set at any point desired, by the simple turning of a hand-wheel; or it can be taken off entirely, thus leaving the bed free for face-plate or chuck-work. The head-stock spindle has taper bearings, and is capable of very nice adjustment. The tail-stock center is self-discharging.

The Lathe includes face-plate, two pointed centers and one spur center hand rest, wrenches and necessary bolting, as shown in cut.

The Lathe weighs 230 pounds.

Boxed, ready for shipment, 285 pounds.

No. 4½ Lathe we have put on the market to meet the demand for a screw-cutting Lathe somewhat smaller and lower priced than our No. 5 Lathe.

It is a back-geared screw-cutting Lathe. It feeds right or left, and cuts screws right or left without change of gearing. The carriage is adjustable for taper boring. It is thoroughly gibbed for taking up wear.

The tail-stock has side movement to adjust centers for turning tapers. The head-stock has hollow spindle for rods up to ⅝ inch.

It will cut all ordinary threads from 5 to 46, and miscellaneous threads up to 154. It swings 9 inches, and takes 35 inches between centers. It swings 4¾ inches over tool carriage.

It has three speeds, and is suitably arranged for heavy or light work in turning or polishing.

The Lathe weighs 270 pounds.

Boxed, ready for shipment, 340 pounds.

No. 5 Lathe swings 11 inches on the face-plate, 6¾ inches over the tool carriage, and is 34 inches between centers. With its back gearing and cone pulleys the Lathe has a great range of speed

The head-stock has a steel spindle with 13-32 inch hole through its entire length. The tail-stock can be readily set at any desired point, or taken altogether from the lathe bed, thus leaving it free for face-plate or chuck-work. It can also be set over for turning tapers. The spindles of both head and tail stocks are of steel, with positively true taper holes for the reception of the centers, and the tail-stock center is self discharging. The tool carriage is a model of convenience and accuracy, and is gibbed to the bed. The tool can be set to the work at any position or angle desired, also to bore a taper hole. All the works are securely protected from chips and dirt. The gearing furnished can be combined to make different leads of thread from 4 to 48, besides many others not mentioned on the index plate. As a right or left screw-cutting Lathe it is simply perfect. All the gearing is cut from solid metal in the best machinery known for gear-cutting, and is as true and noiseless as it is possible for metal gearing to be.

It weighs 355 [illegible]

Boxed, ready for shipment, it weighs 420 pounds.

NO.	LENGTH OF BED.	BETWEEN CENTERS	WEIGHT OF LATHE.	WEIGHT BOXED	EACH.
5½	5 ft.	33 in.	640 lbs.	775 lbs.	$135 00
	6 ft.	45 in.	690 lbs.	830 lbs.	150 00
	7 ft.	57 in.	740 lbs.	890 lbs.	165 00
	8 ft.	69 in.	790 lbs.	950 lbs.	180 00
6	5 ft.	33 in.	640 lbs.	775 lbs.	150 00
	6 ft.	45 in.	690 lbs.	850 lbs.	165 00
	7 ft.	57 in.	740 lbs	890 lbs.	180 00
	8 ft.	69 in.	790 lbs.	950 lbs.	195 00

No. 5½ Lathe is designed to do as large work as it is practical to do by foot power. It is a strong, substantial Lathe for a job or manufacturing shop where the demand on a Lathe is from the smallest to the largest work.

It has patent twin-screw feed and screw cutting combination, which makes change of feed in the tool carriage instead of in the head-stock. This greatly simplifies and reduces the number of parts commonly used for these purposes.

The tail-stock has side movement to adjust centers for turning tapers. The head-stock has hollow spindle for rods up to one-half inch. All the gearing is cut from solid metal. All parts are made from steel where this would best serve the purpose. It will cut all ordinary threads from 4 to 60, and miscellaneous threads up to 154. Swing on face plate, 13 inch; over tool carriage, 8 inch.

No. 6 Lathe embodies those features which go to make up a first-class Lathe; one that has all the necessary appliances for the rapid and accurate execution of both light and heavy work.

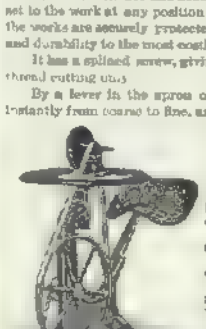
Motion can be started, stopped or reversed instantly, at the will of the operator. The rest can be moved readily to any part of the bed that the work requires.

It is thoroughly and substantially built, and the best material for each part is used. The head-stock has a hollow steel spindle that will take a ¾-inch rod through its entire length. The bores are accurately fitted to the spindle, with provision to keep them true and take up wear. The tail-stock can be readily set at any desired point, or taken altogether from the lathe bed, without removing nuts or bolts. Swing on face plate, 13 inch; over tool carriage, 8 inch.

It can also be set over for turning tapers. The spindles for both head and tail stocks are of steel, with positively true taper holes for the reception of the centers, and the tail-stock center is self-discharging. The tool carriage is a model of convenience and accuracy, and is gibbed to the bed. The tool can be set to the work at any position or angle desired, also to bore a taper hole. All the works are securely protected from chips and dirt, thus insuring long wear and durability to the most costly and vital parts of the lathe.

It has a splined screw, giving rod feed for turning, reserving the screw for thread cutting only.

By a lever in the apron of the tool carriage the feed can be graduated instantly from coarse to fine, and vice versa.



Grinding and Polishing Machine.

This machine is designed for light work, carrying emery and buffing wheels up to six inches diameter by one inch face.

It is used by jewelers, dentists, glass workers, and others.

For light grinding on razors, skates, cutlery, etc., it is unsurpassed.

The head has a cone screw on one side, and a nut and collar on the other side, for emery wheels, etc.

Weight of machine, 65 pounds; boxed for shipment, 115 pounds.

DESCRIPTION	EACH
Complete, - -	$18 00

Wood Working Machinery.

No. 7 Scroll Saw, Improved.

DESCRIPTION	EACH.
Scroll Saw, complete with 1 Dozen Saw Blades.	$ 00

This machine as described [illegible] the workshops of car penters, [illegible] and works [illegible] of good [illegible] and workmanship, [illegible] 3 inches [illegible] inches thick [illegible] The [illegible] her work [illegible] thin [illegible] at proportionate rates. The [illegible] ated swing is from 800 to 1,200 strokes per minute. The saw leaves the work as [illegible] has it is possible for any saw to do and can be taken out and replaced in an instant for inside work. The swing around the blade, under the arm, is 34 inches. The length of the blade is 7 inches. The table and arms are made of hard maple. The frame is made of cast-iron, strong, yet light. The balance-wheel runs on a steel arbor. The machine weighs 45 pounds. Boxed ready for shipment, it weighs 80 pounds.

No. 8 Velocipede Scroll Saw.

DESCRIPTION	EACH
Scroll Saw, 1 Doz. Blades without Attachments,	$ 00
Scroll Saw with Boring Attachment,	13 00

The machine has about the same capacity as Scroll Saw No. 7, but this is [illegible] Power and [illegible] of its having a Boring Attachment to open for inside work. The swing around the blade [illegible] The [illegible] of the [illegible] the table [illegible] The [illegible] of cast-iron, [illegible] and [illegible] The [illegible] Boxed ready [illegible] work [illegible] A machine can be furnished [illegible] desired when ordering. One 3-16 [illegible] with Boring Attachment. We [illegible] extra cuts at the following prices, each: 1-16, 15c.; 3-32, 15c.; 1-8, 20c.; 5-32, 20c., 3-16, 25c., 7-32, 30c.; 1-4, 35c.

Combined Circular and Scroll Saw.

DESCRIPTION.	EACH
Circular Saw only, (2 Saws), without Attachments,	$35 00
Scroll Saw Attachment (1 Doz. Saws), extra,	5 00
Boring Attachment, with Drill Chuck, extra,	10 00
Combined Machine, complete with Attachments,	50 00

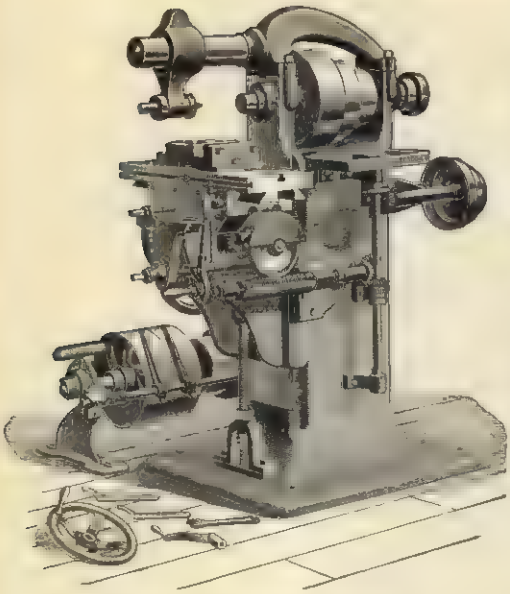
This machine combines a Circular and Scroll Saw, the Circular Saw being the machine proper, with the Scroll Saw as an attachment. We are therefore prepared to furnish the machine with or without the Scroll Saw as may be preferred. Neither the Circular nor the Scroll Saw interferes in the slightest degree with the successful operation of the other. The capacity of the Scroll Saw is [illegible] of No. 7 Saw. For light ripping, cutting to length, [illegible] etc., the Circular Saw of the Combined Machine is invaluable. The Circular Saw, while remaining on its mandrel, can be taken at once out of the way [illegible] Saw is to be used. All varieties of [illegible] done truly and rapidly. The table can be handily adjusted up or down by a cam, to allow any desired depth of cut being made by the saws or cutter tools. The Circular Saws are 6 inches in diameter, and reach [illegible] inches above the table. A 7 or 8 inch saw can be used if desired.

Hand Circular Rip Saw.

DESCRIPTION	EACH
Hand Circular Rip Saw complete with two 10 inch Saws,	$50 00

This machine will rip boards or planks of either soft or hard wood, of any thickness up to 2½, and of any width up to 19 inches. It requires little space, and is built mostly of steel and iron. The feed can be made slow or fast by the cone-pulleys on feed rolls. These rollers are self-adjusting to thick, thin or uneven lumber. The saw can be instantly set to or from the gauge to any width desired. [illegible] to be regulated by a square [illegible] and [illegible] [illegible] provided at the rear end [illegible] ready power [illegible] to govern the depth of cut [illegible] saw. Arranged in this way, [illegible] bevels, [illegible] etc., can be [illegible] manner, holding two saws side by side, [illegible] for wide or [illegible] cuts, [illegible] done. We furnish an extra saw for this purpose with each machine. The saws are 10 inches in diameter. The machine [illegible] and weighs [illegible] pounds. Boxed ready for shipment, it weighs 275 pounds.

NO. 3 WORCESTER MILLING MACHINE



No. 3 Machine Without Back Gears.

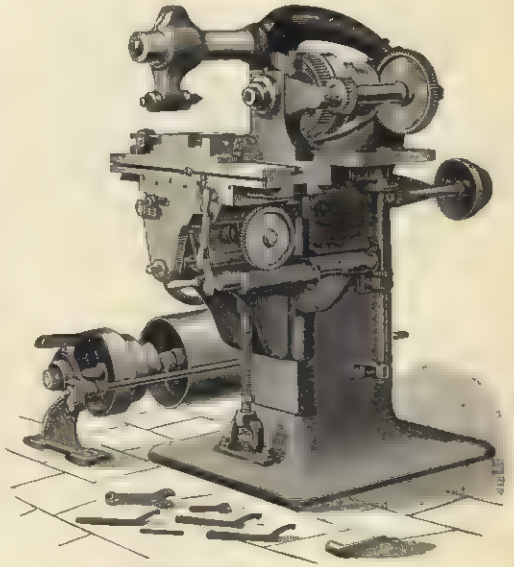
This machine is made from new designs and patterns. The driving cone is large in diameter, with three changes, for a 2½ inch belt. Spindle has a ⅝ inch hole through its entire length, and is fitted with adjustable bearings. Table is moved by the hand wheel shown at front of machine, in connection with a rack and pinion gear, which admits of quick and easy adjustment, and is provided with an automatic feed its entire length. The vertical adjustment is by means of a hand wheel on opposite side from the worm and gear, to which is attached a graduated disk and finger, by which accurate adjustment can be made to thousandths of an inch. Feed works are simple and positive, and have three changes of speed. Standard is provided with shelves and door for safe keeping of cutters and tools.

All studs and shafts in the machine are made of steel. The sliding surfaces are accurately fitted by scraping, and the workmanship throughout is first-class.

Distance from center of spindle to top of table, at lowest point, 14 inches; at highest point, 1 inch. Adjustment of carriage to and from face of column, 5 inches. Length of feed table, 33 inches. Width of feed table, 9 inches. Diameter of spindle, 2¼ inches. Taper hole in spindle at large end of taper, 1¼ inches. Tight and loose pulleys on countershaft, 12x4 inches; speed, 185. Weight, with vise and countershaft, 1,550 lbs.

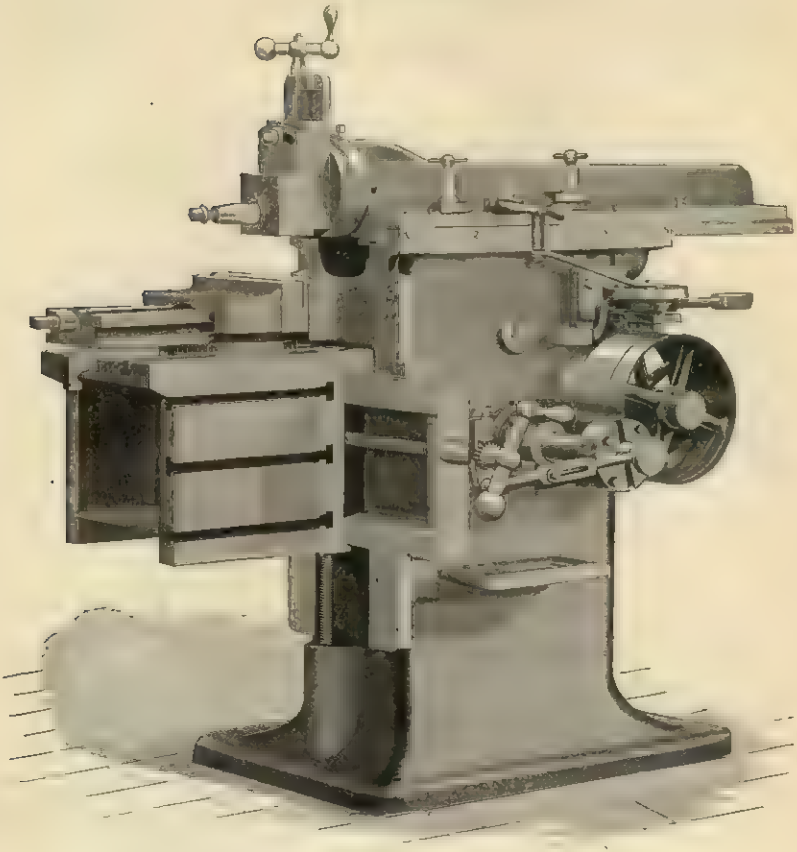
Price, plain machine with arm and vise, as shown in cut at top of page, $475. Price of same without arm and with vise, $445.

Price of Back Geared Machine with arm and vise, as shown in cut annexed, $525. Price of same without arm and vise, $500.



No. 3 Milling Machine, Back Geared.

26-INCH GEARED SHAPER.



This Shaper is newly designed to meet every requirement of modern shops of the best class. It will take as heavy a cut as any machine of its size and weight, and in point of easy adjustment and perfect working it is unsurpassed.

Length of stroke, 26 inches; automatic cross traverse, 27 inches; vertical adjustment, 20 inches; top of table, 15 x 20 inches.

The spindle on which driving pulleys are placed makes 42 revolutions to one of the rack wheel, giving great power, with high belt velocity, and allowing the belts to shift easily and quickly.

The opening under the ram admits long lengths of iron clear through, and adapts it for cutting key-seats in shafts of any length, and up to 4 inches in diameter.

The tool box can be detached and a tool inserted in end of ram for cutting key-ways in pulleys, gears, etc.

When ram is at the end of 26 inch stroke, it has a bearing in column slides of 30 inches.

Machine is complete with swivel chuck.

Countershaft should make 230 revolutions per minute. Weight, 2,600 pounds.

Price $500 00

A PINT OF FOOD

Now a **real** Tonic is something to build you up, give you strength—not fictitious strength—but real strength. The world has lived on grains since the world began, and "bread is the staff of life." Bread is a support, but you can't lean on drugs and an empty stomach. A concentrated extract, the very essence of that most invigorating grain, **barley**, with the soothing, gentle somnolent, and wholly beneficient extract of **hops**, forms a true Tonic,—one that is a food. Food alone gives real strength. Ours is this kind. Barley for the body; hops for the nerves—the mind. There is a substance to it; it is vivifying, life-producing, gives vim and bounce—it braces. It is not merely a temporary exciting agent, either—it cures. Pabst Malt Extract is a builder,—feeds blood, brain and bone. It will quiet the nerves, give sleep, drive out dyspepsia, and for a nursing mother it is salvation for herself and baby. Add The "Best" Tonic to your regular food daily—a pint bottle is quite enough—and you will be astounded at the results in two weeks.

PABST MALT EXTRACT

THE "BEST" TONIC

5 LITTLE BOOKS SENT FREE MENTION THIS PUBLICATION

ADDRESS
Pabst-Milwaukee

Observe the comparison between ancient and modern brewing shown on columns

THE HISTORY OF BREWING BEGINS WITH EGYPT

REED & BARTON
SILVERSMITHS
37 UNION SQUARE,
and
13 MAIDEN LANE,
NEW YORK.

WORKS & OFFICES
TAUNTON
MASS.

"La Marquise"
DESIGN PATENTED

THE LA MARQUISE ESPECIALLY MEETS THE REQUIREMENTS OF THOSE OF A TRULY REFINED TASTE. THE ORNAMENTAL DESIGNS ON THE REVERSE SIDE OF THE DIFFERENT PIECES OF THIS PATTERN SHOW A PLEASING VARIETY OF FLOWERS, INCLUDING THE ORCHID, GOLDEN-ROD, CLEMATIS, WILD ROSE, DAISY, EASTER-LILY, CHRYSANTHEMUM, FORGET-ME NOT, ETC., ETC.

A COMPLETE VARIETY OF FANCY PIECES IS MADE IN THIS PATTERN, NUMBERING OVER ONE HUNDRED, AND EMBRACING THE LATEST IDEAS IN SILVER SERVICE.

CHICAGO OFFICE,
34 WASHINGTON ST.
PHILADELPHIA OFFICE,
925 CHESTNUT ST.

Awarded
Highest Honors—World's Fair,
Gold Medal—Midwinter Fair.

DR.
PRICE'S
CREAM
BAKING
POWDER

MOST PERFECT MADE.

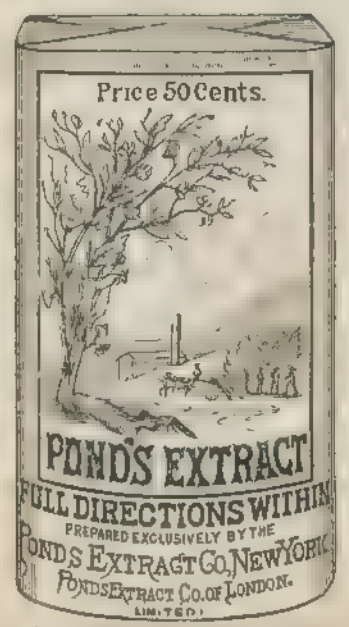
A pure Grape Cream of Tartar Powder. Free from Ammonia, Alum or any other adulterant.

In all the great Hotels, the leading Clubs and the homes, Dr. Price's Cream Baking Powder holds its supremacy.

40 Years the Standard.

Price Baking Powder Co., Chicago.

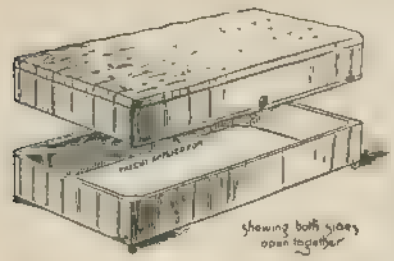
WHY NOT TRY IT.



CURES INFLAMMATIONS AND HEMORRHAGES, CUTS, BURNS, BRUISES, WOUNDS, SORES, &c.

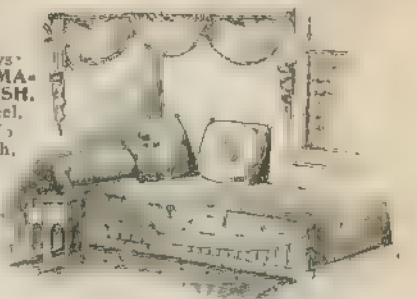
THE DUPLEX ORIENTAL WARDROBE COUCH.

MADE BY J. H. & CO.
NEW YORK



This Couch is *Guaranteed* as follows: Frame **BEST HARD WOOD, MAPLE OR BIRCH. BEST FINISH.** Springs best quality of Japanned Steel. Upholstered with..... Workman No Mattress made of..... No. of Couch.

We manufacture and have on sample at our salesrooms the best and most complete line of **Luxurious Couches and Fine Bedding** made in this country, comprising original designs in Oriental and wardrobe couches, Empire, Turkish, and Spanish pieces, cosy corners, window seats, and shoe boxes. We are now showing many new ideas in cosy corner and boudoir decorations which are gems of art. Estimates submitted on application. Sold by all first-class dealers, or write to us for catalogue. See that our guarantee is on the couch.



THE DUPLEX DRAPED

J. HEALY & CO., 156 West 23d Street, N. Y., Makers of High Grade Bedding, and Importers of **Brass and Iron Beds.**

A Moment's Reflection

Should be all that is necessary to convince persons who expect to build, or remodel their homes, that their wants in the line of

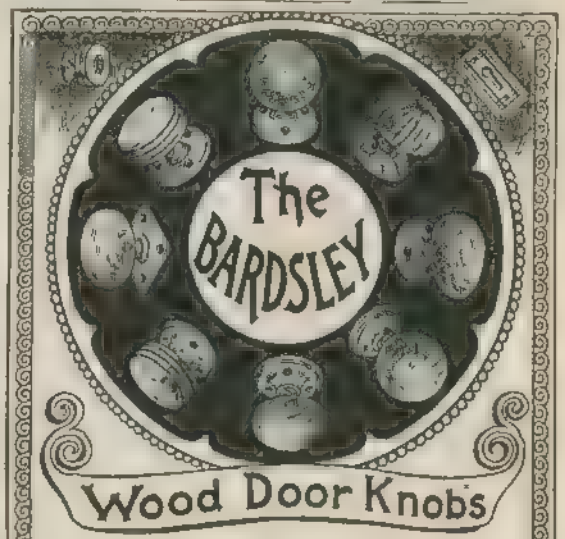
Mantels, Grates, Tiling, Gas Logs, &c.,

can be best supplied by the Pioneers in Mantel Building, and the largest manufacturers of wood mantels in the United States. Illustrated mantel catalogues **sent free.**

THE ROBERT MITCHELL FURNITURE CO.,
Cincinnati, Ohio.

Established 1836. Manufacturers. Capital, $1,000,000.

We issue the handsomest furniture catalogue published. 144 pages, showing choice pieces. Sent on receipt of 8 cents, for postage.



ARE undoubtedly the best for dwellings. They retain their handsome finish, and the heads never come off. They will match any interior finish, as they are made in all woods used for that purpose.

Have your **Butler's Pantry** doors hung with the

BARDSLEY CHECKING HINGE.

It swings the door both ways, closes it with a soft, gentle action, and stops it at once at the centre.

Catalogue on application

J. BARDSLEY,
151 Baxter Street, New York.

OUR AMERICAN HOMES AND HOW TO FURNISH THEM

HORNER'S FURNITURE

Reasons why you should buy it in preference to any other.

(1). Because this firm have long enjoyed the reputation of keeping only the best Furniture that can be produced, both in medium and finest grades; (2). Because their assortment are unequaled; (3). Because their prices are the lowest at which goods of standard quality can be sold.

Latest productions in Dining Room, Bedroom, Parlor, Drawing Room, Library and Hall Furniture——Venetian Carved Furniture——Novelties in Imported Furniture——White and Gold Enameled Furniture——Enameled and Brass Bedsteads——Engish Brass Bedsteads (75 patterns); Mantle and Brass Furniture——Restful Easy Chairs and Settees——Smoking and Billiard Room Furniture——Everything for city or country homes——Eight spacious floors——All prices in plain figures.

R. J. HORNER & CO., 61-65 West 23d Street, New York.

EXQUISITELY AND DELICATELY SCENTED WITH VIOLETS
VELVET-SKIN SOAP
ABSOLUTELY THE BEST FOR THE HYGIENIC CARE OF THE SKIN
VELVET SKIN POWDER
AT ALL FIRST CLASS DRUGGISTS
Send ten cents in stamps to Dept C, PALISADE MFG CO., YONKERS N.Y. for complete set of samples

£ CHEQUES
OF THE CHEQUE BANK, LONDON.
FOR TRAVELLERS, FOR REMITTANCES,
SUPERIOR TO ALL OTHERS
CIRCULAR ON APPLICATION.
FRED W. PERRY Gen'l Agent,
2 WALL ST., N. Y.

Study LAW at HOME.
THE SPRAGUE CORRESPONDENCE SCHOOL OF LAW
Fits you for a LEGAL CAREER. Also teaches it to be USED IN BUSINESS LAW.
Over 2000 students in all parts of the world. Full particulars free.

Sprague Correspondence School of Law,
No. 41 Telephone Building, DETROIT, MICH.

YOU CAN GET THE WE PAY POST-AGE
FACTS about the **Best Plan** of life insurance by inquiring of the Hartford Life and Annuity Ins. Co., of Hartford, Conn. Its **Safety Fund System** beats the world. ½ usual cost. Sound. Equitable. Agents wanted. Write for particulars.
All you have guessed about life insurance may be wrong. If you wish to know the truth, send for "How and Why," issued by the PEASE MUTUAL LIFE, 621 & 5 Chestnut Street, Philadelphia.
First-class Life Insurance at Lowest Rates
For particulars, address
BAY STATE BENEFICIARY ASSOCIATION,
Westfield, Mass.

Catarrh, Hay-Fever, Asthma, and Throat and Lung Troubles

CURED WHILE YOU SLEEP
by use of the
Pillow-Inhaler
and its natural process of inhalation. Send for pamphlet and testimonials, or call and see it. Please mention HARPER'S MAGAZINE
PILLOW-INHALER CO.,
1217 Filbert St., - Philadelphia, Pa.

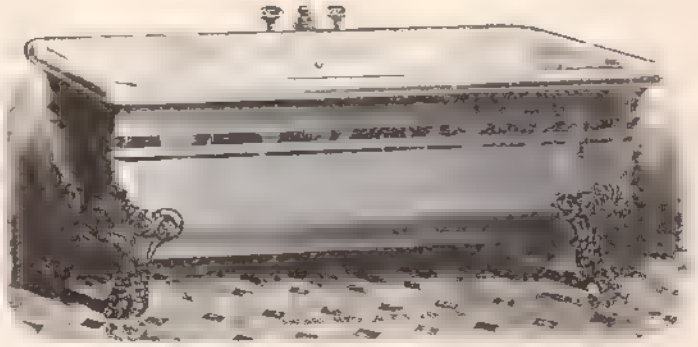
AN ADVERTISEMENT
—IN—
THE BOSTON HERALD
Is the Most Profitable Investment a Business Man Can Make.

20th Edition, postpaid for 25c. (or stamps).
THE HUMAN HAIR,
Why it Falls Off, Turns Grey, and the Remedy.
By PROF. HARLEY PARKER, F.R.A.S.
A. H. Long & Son, 202 A—— St., ——, Ill.

Recommended for SORE EYES DR. ISAAC THOMPSON'S EYE WATER

From Grand Salon to Servant's Chamber

there is no nook or corner of a private residence where the dominating influence of True Refinement is more surely felt than in the Bath-room; and its best expression is the presence of a

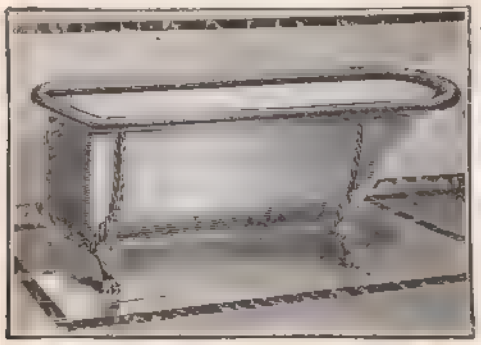


PORCELAIN-LINED TUB

(with "S. M. CO." upon the bottom), indicating that in all which makes a bath desirable the Acme of Perfection has been reached. For catalogue, address

Samples may be seen at our show rooms:
No. 8 East 42d St., New York,
and No. 31 Dearborn St., Chicago.

STANDARD MFG. CO.,
Box 1454 E, Pittsburg, Pa.



No. 1. Bath. Many Styles and sizes, only one quality—the Best.

SEND FOR CATALOGUE.

At Less than half the Cost of other Baths you can buy

INDESTRUCTIBLE

STEEL CLAD BATH.

INEXPENSIVE

Without the loss of a single advantage, and with many added merits.

An unbreakable, graceful bath; cannot harbor dirt or vermin, and can be decorated to match the room.

Don't buy an imitation—get the Steel Clad. All plumbers and jobbers have it, or the

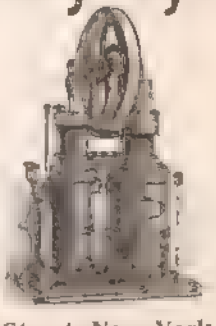
Steel Clad Bath Co. of N. Y., 444-446 W. 26th St., N. Y.

Do You Use Water? Do You Want It Every Day?

Only the best pump will meet this want. The best ones are the

Rider and Ericsson Hot-Air Pumps

Is a record of twenty years proof enough? They are not the "cheapest." The best of anything is *never* cheapest in first cost. But you do not buy pumps every day, and in the long run the lowest priced things are not always the cheapest. A [illegible] are absolutely safe. If interested, send for catalogue "H" and state conditions under which your pump will have to work.



RIDER ENGINE CO.

86 Lake Street, CHICAGO. **37 Dey Street, New York.**

Most Popular Wheels Made

Because money cannot buy better, and the prices — See below

Crescent Bicycles

are made of the finest materials obtainable and skilled labor is employed in their construction. Newest designs —Perfect in every detail—Strictly high-grade—Fully Guaranteed

Our Seven Models for Ladies and Girls, Men and Boys make the best and most complete line of Bicycles on the market.

Men's & Ladies', Youths' & Misses', Boys' & Girls',

$75 $50 $40

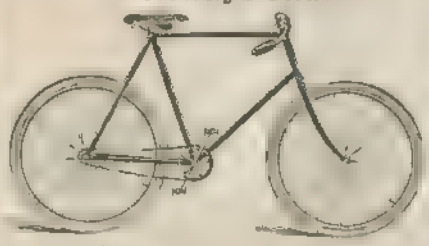
CRESCENT SCORCHER, 20 lbs., $90.

Send for our Handsome 1895 Catalogue.

Factory, Chicago, Ill. **WESTERN WHEEL WORKS.** Eastern Branch, 35 Barclay St., N. Y.

Union Crackajack

Once Tried, Always Ridden.



20-LB. ROADSTER, $100.

UNIONS HOLD MANY WORLD'S RECORDS.

Our reputation is derived from the thoroughness and excellence of our work.

If nothing but the BEST is good enough for you, you want the CRACKAJACK.

Agencies everywhere, or write to us.

CATALOGUE FREE ON DEMAND.

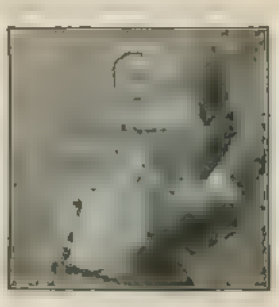
UNION CYCLE MFG. CO.,
239-243 Columbus Avenue, Boston Mass.

Have You a Baby? and a Bicycle?

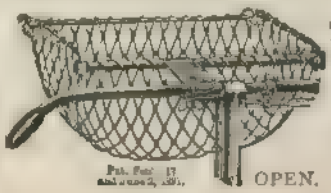
Then get a

KALAMAZOO BABY CARRIER!

and you'll have fun.



The carrier weighs only 3 lbs., costs only **$2.50** as shown in cut, or with board seat and strap attachment **$3.00**, will carry babies from the time they can sit alone until they are five years old. The net is linen twine and can be drawn up in the form of a bag to make a good Parcel Carrier.



THE KALAMAZOO FOLDING PARCEL CARRIER.

Weight 16 oz.

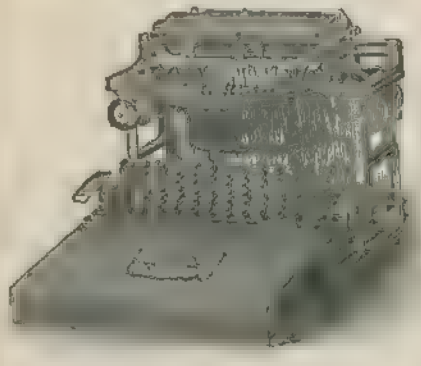
OPEN. Folds up when not in use. Price $2.00.

Ask your Cycle Dealer for them, or we will send them to you express prepaid upon receipt of price. Catalogues free.

KALAMAZOO CYCLE CO.,
Manufacturers,
KALAMAZOO, MICH.

The New No. 4 Caligraph

LEADS THEM ALL



An examination of the many features of our latest machine will tell you why Caligraphs lead.

Send us your name.

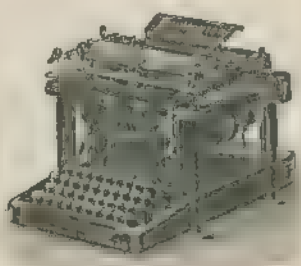
AMERICAN WRITING MACHINE CO.,

237 BROADWAY, NEW YORK.

The New Model

Remington Typewriter

No. 6



"The improvements all tend towards greater ease of operation, and simplicity as well as durability of the machine."

Descriptive Circulars on application to

WYCKOFF, SEAMANS & BENEDICT

327 Broadway, New York.

"IMPROVEMENT THE ORDER OF THE AGE"

The New No. 2

Smith Premier Typewriter

HAVE YOU EXAMINED IT?

Many Improvements Heretofore Overlooked by Other Manufacturers.

ADDRESS

THE SMITH PREMIER TYPEWRITER CO., Syracuse, N.Y., U.S.A. (Branch Offices in 20 principal cities in the United States)

Our Theme This Month Is the

No. 6 Spacing Dogs.

An horizontal oscillating Dog Arm, carrying instantly removable and interchangeable Spacing Dogs.

This paper carriage escapement will never fail to respond to the most rapid operation of the keys. No unequal spacing, sticking, or skipping. Gives the lightest touch ever attained on a typewriter.

If you are an expert, you will appreciate these points. If a novice, you want the best. Catalogue and testimonials at your service.

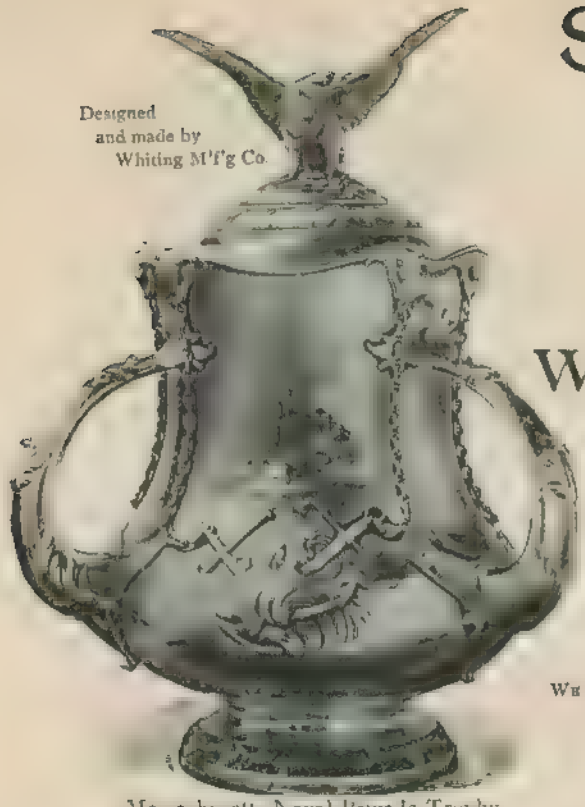
BAR-LOCK VISIBLE WRITING TYPEWRITER

BAR-LOCK VISIBLE WRITING TYPEWRITER

THE COLUMBIA TYPEWRITER MFG. CO., 37, 39, 116th Street, NEW YORK.

Solid Silver

(Exclusively.)



Designed and made by Whiting M'f'g Co.

Massachusetts Naval Brigade Trophy

TRADE W MARK
STERLING

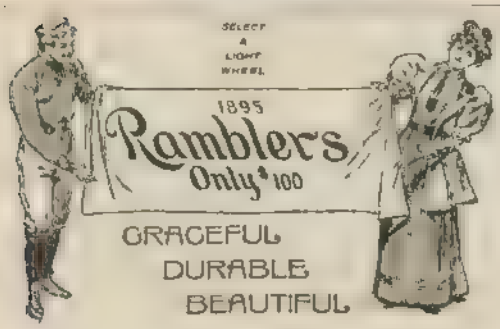
WHITING M'F'G CO

Silversmiths,

Broadway & 18th St.,

NEW YORK.

WE MAKE SOLID SILVER ONLY
OF STERLING QUALITY, $\frac{925}{1000}$ FINE,
EVERY ARTICLE BEARING OUR TRADE-MARK
THEREFORE PURCHASERS SECURE ENTIRE
FREEDOM FROM FALSE IMPRESSIONS.



MEN AND WOMEN

of good taste select Bicycles as they do books—demand the high grade and approved article, with handsome and attractive exterior

The Rambler

is the "edition de luxe" of Bicycles.

Handsome catalogue at any of the 1,200 Rambler agencies

GORMULLY & JEFFERY MFG. CO.

Chicago. Boston. Washington New York.
Brooklyn. Detroit. Coventry, England.

Victorien Sardou

the Celebrated Author

writes of

VIN MARIANI

THE IDEAL TONIC:

"In truth, it is perfect, gives health, drives away the blues, is of excellent quality and delicious to the taste."

Mailed Free.

Descriptive Book with Testimony and

Portraits

OF NOTED CELEBRITIES.

Beneficial and Agreeable.
Every Test Proves Reputation.

Avoid Substitutions. Ask for 'Vin Mariani.'
At Druggists and Fancy Grocers.

MARIANI & CO.,

PARIS: 41 Bd. Haussmann. 52 W. 15th St., New York.
LONDON 239 Oxford Street.

WINCHESTER REPEATING RIFLES

WINCHESTER MODEL 1895 SPORTING

Rifles Chambered for the .30 Caliber Army Cartridge will not Handle the .303 British Cartridge, Magazine Capacity, 5.

Model 1895 Sporting, 28 inch Round Nickel Steel Barrel, .30 Caliber Army, Weight, about 8¼ Pounds ..... Each $30.00
" **1895** " 28 " " " " " .303 British, " " 8¼ " ..... " 30.00
" **1895** " 24 " " " " " .405 " ..... " 30.00

WINCHESTER AUTOMATIC HAMMERLESS TAKE DOWN, MODEL 1903

This is a 10 Shot Rifle, using New Inexpensive Rim Fire Cartridges, known as the .22 Caliber Winchester Automatic and the .22 Caliber Winchester Automatic Hollow Point, loaded with Smokeless Powder and Winchester Greaseless Bullets. No other Size of .22 Caliber Cartridges should be used in this Rifle.

Made with Blued Trimmings; Plain Walnut Stock and Fore Arm; 20 inch Round Barrel Fitted with Open Front and Rear Sights. The Stock is 13⅜ inches Long; Drop at Comb, 1 11/16 inches; Drop at Heel, 2 5/16 inches; Length of Gun over all, 36½ inches.

Model 1903 Automatic, 20 inch Round Barrels, Plain Trigger, .22 Caliber, Weight, about 5¾ Pounds ..... Each $25.00

WINCHESTER SELF-LOADING HAMMERLESS TAKE DOWN, MODEL 1905

Made in .32 and .35 Calibers for Central Fire Ammunition. The Cartridges it Handles being of the Modern Smokeless Powder Type, using Metal Patched Bullets; made with Blued Trimmings; Plain Walnut Pistol Grip Stock and Fore Arm; 22 inch Round Barrels, Fitted with Sporting Front and Rear Sights; The Stock is 13⅞ inches long and finished with a Rubber Butt Plate; Drop at Comb 1¾ inches; Drop at Heel, 2⅜ inches; Length of Gun over all, 39¾ inches; Magazine Capacity, 5.

Model 1905 Self-Loading, 22 inch Round Barrels, Plain Trigger, .32 Caliber, Weight, about 7⅛ Pounds ..... Each $26.00
" **1905** " " 22 " " " " " .35 " " " 7⅛ " ..... " 26.00

MODEL 1907 SELF-LOADING, HIGH POWER

The Winchester High Power Model 1907 is the same Type as Model 1905 adapted to a more powerful Cartridge. The Pistol Grip Stock is finished with a Rubber Butt Plate, is 14 inches long and has a Drop of 1 11/16 inches at the Comb and of 2⅛ inches at the Heel, Length of Gun over all, 38 inches; made for .351 Caliber High Power Winchester S. L. Cartridges, Magazine Capacity, 5

Model 1907 Self-Loading, 20 inch Round Nickel Steel Barrels, Plain Trigger, .351 Caliber, Weight, about 7¾ Lbs. ..Each $28.00

MODEL 1910 SELF-LOADING HIGH POWER

The Winchester High Power Model 1910 is the same Type as Models 1905 and 1907, made for, 401 Caliber High Power Winchester S. L. Cartridges. The Pistol Grip Stock is finished with a Rubber Butt Plate, is 13⅞ inches long and has a Drop of 1 11/16 inches at the Comb and of 2⅛ inches at the Heel, Length of Gun over all, 38¼ inches; Magazine Capacity, 4.

Model 1910 Self-Loading, 20 inch Round Nickel Steel Barrels, Plain Trigger, .401 Caliber, Weight, about 8¼ Lbs. ..Each $30.00

MARLIN REPEATING RIFLES

MARLIN PUMP ACTION "FULL MAGAZINE," TAKE DOWN, MODEL 20

Shoots 25 times at one Loading, Magazine Full Length of Barrel, Gun handles at one Loading, 25 Short Cartridges, 20 Long Cartridges or 18 Long Rifle Cartridges. A very accurate, Reliable, well Balanced Gun, especially desirable for Gallery Shooting. Rifle has Blued Frame; Blued Rifle Butt Plate; Black Walnut Butt Stock and Fore End; Ivory Bead Front Sight; Special Adjustable Rear Sight. The Stock is 13⅛ inches long; Drop at Comb, 1 9/16 inches; Drop at Heel, 2¾ inches; Length of Gun over all, 39¼ inches, Length Taken Down, 26 inches.

Model 20 Marlin "Full Magazine," 24 inch Octagon Barrels, .22 Caliber, Weight, 5 lbs. 2 oz ..... Each $11.50

Ten in a Case.

MARLIN REPEATING RIFLES

MARLIN PUMP ACTION TAKE DOWN, NEW MODEL 27

The only pump action repeater made in these calibers. Thoroughly adapted to the use of high velocity smokeless loads, as well as black and low pressure smokeless; excellent for rabbits, woodchucks, foxes, wolves and deer. The trombone action and Smokeless Steel barrel cannot be obtained in any other rifle of these calibers at any price; take-down construction and Ivory Bead sight always cost extra in other .25-20 and .32-20 rifles; the modern solid top and side ejector cannot be duplicated in any other make of .25-20 or .32-20 rifles.

Model 27 rifles are all take-down; have Smokeless Steel barrel; blued frame; blued steel rifle buttplate. Black walnut stock and fore-end. Rocky Mountain rear sight; Ivory Bead front sight.

New Model 27 Marlin, Take Down, 24 inch Octagon Barrels, .25-20 Caliber, 7 Shots, Weight, 6¼ Pounds ..... Each $15.00
" " 27 " " " 24 " " " .32-20 " 7 " " 6¼ " ..... " 15.00

MARLIN MODEL 1892 .22 CALIBER

Handles in the same gun, without any change in adjustment, the .22 short, .22 long and .22 long-rifle cartridges. It is a well made, accurate and reliable arm for target work and all small game shooting up to 200 yards. Big game hunters find that practice with this arm guarantees rapid and accurate work with their high power lever action rifles.

The removable side plates allows taking out parts instantly for cleaning; makes it the easiest of all small caliber rifles to be cleaned—and frequent and thorough cleaning adds greatly to the life of a rifle. Magazine holds 25 short, 20 long or 18 long-rifle cartridges at one loading. Blued frame; black Walnut stock and Fore End, rubber butt-plate; adjustable Rocky Mountain front and rear sights.

Model 1892 Marlin, .22 Caliber, 24 inch Round Barrels, Weight, 5¾ Pounds ..... Each $12.15
" " " .22 " 24 " Octagon Barrels, " 5⅝ " ..... " 13.15

MARLIN MODEL 1892. .32 RIM AND CENTER-FIRE CALIBER

This is the only repeating rifle that uses the cheap but powerful and accurate .32 caliber rim-fire cartridges. It handles without change in adjustment the .32 short, .32 long and .32 long-rifle rim-fire cartridges, and by substituting the extra firing pin (sent free with the rifle) it handles the .32 short, .32 long and .32 long-rifle center-fire cartridges. It is especially recommended for rabbits, woodchucks, foxes and all small game, up to 200 yards.

Magazine holds 17 short cartridges, 14 long or long-rifle cartridges, rim or center-fire. Blued frame; black walnut stock and fore-end; blued rifle buttplate; Rocky Mountain front and rear sights.

Model 1892 Marlin, .32 Rim and Center Fire Caliber, 24 inch Round Barrels, Weight, 6¾ Pounds ..... Each $12.15
" " " .32 " " " " " " 24 " Octagon Barrels, " 6 " ..... " 13.15

MARLIN MODEL 1897. .22 CALIBER, TAKE-DOWN

The Model 1897 is similar in construction to the Model 1892, but is made in take-down style, has Special Smokeless Steel frame and tool steel working parts. Using .22 short, .22 long and .22 long-rifle cartridges, without change in adjustment, it is excellent for rabbits, squirrels, hawks, crows, foxes and all small game and target work up to 200 yards. It is the best made .22 caliber rifle in the world.

Magazine holds 25 short, 20 long or 18 long-rifle cartridges at one loading. Handsome case-hardened frame; black walnut stock and fore-end; rubber buttplate; Rocky Mountain adjustable rear sight and Ivory bead front sight.

Model 1897 Marlin, Take Down, 22 Caliber, 24 inch Round Barrels, Weight, 5¾ Pounds ..... Each $14.50
" " " " " 22 " 24 " Octagon Barrels, " 5⅝ " ..... " 16.00

SAVAGE REPEATING RIFLES

SAVAGE HAMMERLESS, TAKE DOWN, NEW MODEL 1911

A 20 Shot Repeater, Built with Stock Magazine and Modeled after the most Modern Military Rifles. Is Strong, Safe and Easy to operate, Extremely accurate, The Barrel being especially Rifled to shoot .22 Caliber Short Cartridges only. Genuine American Walnut Stock, with Shot Gun Steel Butt Plate.

New Model 1911 Savage, Take Down, 22 Caliber, 20 inch Round Barrels, Weight, 4 Pounds ..... Each $6.50

Ten in a Case.

Repeating Rifles.

WINCHESTER, MODEL 1890.

"Take Down," Plain Trigger.

		Each
No. 230—22 Caliber Short	Rim Fire Cartridge, 24 in. Octagon Barrel, 15 Shots, Weight About 5¾ Lbs.	$16.00
No. 231—22 Caliber Long	Rim Fire Cartridge, 24 in. Octagon Barrel, 12 Shots, Weight About 5¾ Lbs.	16.00
No. 232—22 Caliber Winchester	Rim Fire Cartridge, 24 in. Octagon Barrel, 10 Shots, Weight About 5¾ Lbs.	16.00

NOTE—The cartridges for Model 1890 Rifles will not interchange; the proper cartridge for the Rifle is marked on the top of each barrel. In ordering, select the cartridge you want to use.

WINCHESTER, MODEL 1906.

Take Down, Extra Light Weight.

	Each
No. 234—22 Caliber Short, Long and Long Rifle Rim Fire Cartridge, 20 in. Round Barrel, Weight About 5 Lbs.	$10.50

Capacity of Magazine of No. 234, 15 Short, 12 Long, or 11 Long Rifle Cartridges.

The Winchester Model 1906 Rifle is fitted with a Sporting Front Sight and an Adjustable Open Rear Sight. The Stock is 12⅞ in. Long, Drop at Comb 1⅝ in., Drop at Heel 2⅝ in. Length over all 35¾ in.

WINCHESTER AUTOMATIC, MODEL 1903.

Take Down, Hammerless, Safety Catch.

	Each
No. 1903—22 Caliber Winchester Automatic, 20 in. Round Barrel, Plain Walnut Stock and Fore-End, Not Checked, 10 Shots, Weight About 5¾ Lbs.	$25.00

The Winchester Model 1903 is a ten-shot Automatic, Hammerless, Take Down Rifle, using a new inexpensive Rim Fire Cartridge, known as the 22 Caliber Winchester Automatic, loaded with Smokeless Powder and Winchester Greaseless Bullet. No other size of 22 Caliber Cartridge should be used in this Rifle. True lovers of sport will use it in open places upon moving game—Ducks, Geese, and small animals—where Shot Guns are now used. After filling the magazine and throwing a cartridge into the chamber, all that is necessary to do to shoot the ten cartridges that magazine holds, is to pull the trigger for each shot. The Rifle can be shot as fast as the trigger can be pulled. The recoil from the exploded cartridge ejects the empty shell, cocks the hammer, and throws a fresh cartridge into the chamber.

This Rifle is made with blued trimmings. The stock is 13¼ in. long, drop at comb 1¾ in., drop at heel 3¼ in., length of gun over all 36 in. Fancy walnut stock and forearm and plain or fancy walnut pistol grip stock, checked or unchecked, are the only variations from the standard gun that will be furnished.

Carbines.

WINCHESTER, MODEL 1894.

Full Magazine.

		Each
No. 2560—	30-30 Caliber Center Fire Cartridge, 20 in. Round Nickel Steel Barrel, 7 Shots, Weight About 6½ Lbs.	$21.00
No. 2561—	38-55 Caliber Center Fire Cartridge, 20 in. Round Barrel, 7 Shots, Weight About 6 Lbs.	17.50
No. 2562—	32 Caliber Special Center Fire Cartridge, 20 in. Round Nickel Steel Barrel, 7 Shots, Weight About 6 Lbs.	21.00
No. 2563—	32-40 Caliber Center Fire Cartridge, 20 in. Round Barrel, 7 Shots, Weight About 6 Lbs.	17.50

WINCHESTER, MODEL 1892.

Full Magazine.

		Each
No. 2559—	25-20 Caliber Center Fire Cartridge, 20 in. Round Barrel, 12 Shots, Weight About 5¾ Lbs.	$17.50
No. 2558—	32 Caliber Winchester Center Fire Cartridge, 20 in. Round Barrel, 12 Shots, Weight About 5¾ Lbs.	17.50

Repeating Rifles.

WINCHESTER, MODEL 1895.

Plain Trigger, Box Magazine.

		Each
No. 288	—30 U. S. Gov't **Model 1903** Center Fire Cartridges, 24 in. Round Nickel Steel Barrel, 6 Shots, Weight About 8¼ Lbs.	$30.00
No. 289	—30 U. S. Gov't **Model 1906** Center Fire Cartridges, 24 in. Round Nickel Steel Barrel, 6 Shots, Weight About 8¼ Lbs.	30.00
No. 290	—30-220 Caliber Center Fire Cartridge, 28 in. Round Nickel Steel Barrel, 6 Shots, Weight About 8¼ Lbs.	30.00
No. 298	—35 Caliber Winchester Center Fire Cartridge, 24 in. Round Nickel Steel Barrel, 5 Shots, Weight About 8½ Lbs.	30.00
No. 294	—38-72 Caliber Winchester Center Fire Cartridge, 26 in. Round Barrel, 6 Shots, Weight About 7½ Lbs.	23.50
No. 295	—38-72 Caliber Winchester Center Fire Cartridge, 26 in. Octagon Barrel, 6 Shots, Weight About 8½ Lbs.	25.00
No. 299	—405 Caliber Winchester Center Fire Cartridge, 24 in. Round Nickel Steel Barrel, 5 Shots, Weight About 8¼ Lbs.	30.00

Take Down, Plain Trigger.

		Each
No. 290½—	30-220 Caliber Center Fire Cartridge, 28 in. Round Nickel Steel Barrel, 6 Shots, Weight About 8½ Lbs.	$32.50

Nos. 288, 289, 290, 298 and 299 Cannot be Furnished with Longer Barrels than Above Specified.
Model 1895 Winchester Repeating Rifles Cannot be Furnished with Pistol Grip Stocks.